

Form 3160-3
(June 2015)FORM APPROVED
OMB No. 1004-0137
Expires: January 31, 2018

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

1a. Type of work: ☐ DRILL ☐ REENTER 1b. Type of Well: ☐ Oil Well ☐ Gas Well ☐ Other 1c. Type of Completion: ☐ Hydraulic Fracturing ☐ Single Zone ☐ Multiple Zone		5. Lease Serial No. 6. If Indian, Allottee or Tribe Name 7. If Unit or CA Agreement, Name and No. 8. Lease Name and Well No. X401331 [333084]
2. Name of Operator [229137]		9. API Well No. 30-025-50384
3a. Address	3b. Phone No. (include area code)	10. Field and Pool, or Exploratory [98248]
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface At proposed prod. zone		11. Sec., T. R. M. or Blk. and Survey or Area
14. Distance in miles and direction from nearest town or post office*		12. County or Parish 13. State
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any)	16. No of acres in lease	17. Spacing Unit dedicated to this well
18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft.	19. Proposed Depth	20. BLM/BIA Bond No. in file
21. Elevations (Show whether DF, KDB, RT, GL, etc.)	22. Approximate date work will start*	23. Estimated duration
24. Attachments		

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, and the Hydraulic Fracturing rule per 43 CFR 3162.3-3 (as applicable)

- | | |
|---|---|
| 1. Well plat certified by a registered surveyor.
2. A Drilling Plan.
3. A Surface Use Plan (if the location is on National Forest System Lands, the SUPO must be filed with the appropriate Forest Service Office). | 4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).
5. Operator certification.
6. Such other site specific information and/or plans as may be requested by the BLM. |
|---|---|

25. Signature	Name (Printed/Typed)	Date
Title		
Approved by (Signature)	Name (Printed/Typed)	Date
Title		
Office		

Application approval does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.
 Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

NGMP Rec 06/23/2022

SL

(Continued on page 2)



Approval Date: 06/22/2022

KZ
07/26/2022

*(Instructions on page 2)

Additional Operator Remarks

Location of Well

0. SHL: LOT 1 / 710 FNL / 700 FWL / TWSP: 24S / RANGE: 32E / SECTION: 30 / LAT: 32.193653 / LONG: -103.720708 (TVD: 0 feet, MD: 0 feet)

PPP: LOT 1 / 100 FNL / 330 FWL / TWSP: 24S / RANGE: 32E / SECTION: 30 / LAT: 32.195328 / LONG: -103.721905 (TVD: 11777 feet, MD: 11800 feet)

BHL: LOT 4 / 50 FSL / 330 FWL / TWSP: 24S / RANGE: 32E / SECTION: 31 / LAT: 32.166718 / LONG: -103.72189 (TVD: 11994 feet, MD: 21870 feet)

BLM Point of Contact

Name: Gavin Mickwee

Title: Land Law Examiner

Phone: (575) 234-5972

Email: gmickwee@blm.gov

CONFIDENTIAL

PECOS DISTRICT DRILLING CONDITIONS OF APPROVAL

OPERATOR'S NAME:	COG
LEASE NO.:	NMNM120908
LOCATION:	Section 30, T.24S., R.32 E., NMPM
COUNTY:	Lea County, New Mexico

WELL NAME & NO.:	Windward Fed 706H
SURFACE HOLE FOOTAGE:	710'/N & 700'/W
BOTTOM HOLE FOOTAGE:	50'/S & 330'/W

COA

H2S	☐ Yes	☒ No	
Potash	☒ None	☐ Secretary	☐ R-111-P
Cave/Karst Potential	☒ Low	☐ Medium	☐ High
Cave/Karst Potential	☐ Critical		
Variance	☐ None	☒ Flex Hose	☐ Other
Wellhead	☐ Conventional	☒ Multibowl	☐ Both
Other	☐ 4 String Area	☐ Capitan Reef	☐ WIPP
Other	☐ Fluid Filled	☐ Cement Squeeze	☐ Pilot Hole
Special Requirements	☐ Water Disposal	☐ COM	☐ Unit

A. HYDROGEN SULFIDE

Hydrogen Sulfide (H2S) monitors shall be installed prior to drilling out the surface shoe. If H2S is detected in concentrations greater than 100 ppm, the Hydrogen Sulfide area shall meet Onshore Order 6 requirements, which includes equipment and personnel/public protection items. If Hydrogen Sulfide is encountered, provide measured values and formations to the BLM.

B. CASING

1. The **10-3/4** inch surface casing shall be set at approximately **800** feet (a minimum of **25 feet (Lea County)** into the Rustler Anhydrite and above the salt) and cemented to the surface.
 - a. If cement does not circulate to the surface, the appropriate BLM office shall be notified and a temperature survey utilizing an electronic type temperature survey with surface log readout will be used or a cement bond log shall be run to verify the top of the cement. Temperature survey will be run a minimum of six hours after pumping cement and ideally between 8-10 hours after completing the cement job.
 - b. Wait on cement (WOC) time for a primary cement job will be a minimum of **8**

hours or 500 pounds compressive strength, whichever is greater. (This is to include the lead cement)

- c. Wait on cement (WOC) time for a remedial job will be a minimum of 4 hours after bringing cement to surface or 500 pounds compressive strength, whichever is greater.
 - d. If cement falls back, remedial cementing will be done prior to drilling out that string.
2. The minimum required fill of cement behind the 7-5/8 inch intermediate casing is:
- Cement to surface. If cement does not circulate see B.1.a, c-d above.
- Wait on cement (WOC) time for a primary cement job is to include the tail cement slurry due to cave/karst.**
3. The minimum required fill of cement behind the 5-1/2 inch production casing is:
- Cement should tie-back at least **200 feet** into previous casing string. Operator shall provide method of verification.

C. PRESSURE CONTROL

1. **Variance approved to use flex line from BOP to choke manifold. Manufacturer's specification to be readily available. No external damage to flex line. Flex line to be installed as straight as possible (no hard bends).**
2. Operator has proposed a multi-bowl wellhead assembly. This assembly will only be tested when installed on the surface casing. Minimum working pressure of the blowout preventer (BOP) and related equipment (BOPE) required for drilling below the surface casing shoe shall be **5000 (5M) psi**
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
 - e. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.

GENERAL REQUIREMENTS

The BLM is to be notified in advance for a representative to witness:

- a. Spudding well (minimum of 24 hours)
- b. Setting and/or Cementing of all casing strings (minimum of 4 hours)
- c. BOPE tests (minimum of 4 hours)

☒ Eddy County

Call the Carlsbad Field Office, 620 East Greene St., Carlsbad, NM 88220,
(575) 361-2822

☒ Lea County

Call the Hobbs Field Station, 414 West Taylor, Hobbs NM 88240, (575)
689-5981

1. Unless the production casing has been run and cemented or the well has been properly plugged, the drilling rig shall not be removed from over the hole without prior approval.
 - a. In the event the operator has proposed to drill multiple wells utilizing a skid/walking rig. Operator shall secure the wellbore on the current well, after installing and testing the wellhead, by installing a blind flange of like pressure rating to the wellhead and a pressure gauge that can be monitored while drilling is performed on the other well(s).
 - b. When the operator proposes to set surface casing with Spudder Rig
 - Notify the BLM when moving in and removing the Spudder Rig.
 - Notify the BLM when moving in the 2nd Rig. Rig to be moved in within 90 days of notification that Spudder Rig has left the location.
 - BOP/BOPE test to be conducted per Onshore Oil and Gas Order No. 2 as soon as 2nd Rig is rigged up on well.
2. Floor controls are required for 3M or Greater systems. These controls will be on the rig floor, unobstructed, readily accessible to the driller and will be operational at all times during drilling and/or completion activities. Rig floor is defined as the area immediately around the rotary table; the area immediately above the substructure on which the draw works are located, this does not include the dog house or stairway area.
3. The record of the drilling rate along with the GR/N well log run from TD to surface (horizontal well – vertical portion of hole) shall be submitted to the BLM office as well as all other logs run on the borehole 30 days from completion. If available, a digital copy of the logs is to be submitted in addition to the paper copies. The Rustler top and top and bottom of Salt are to be recorded on the Completion Report.

A. CASING

1. Changes to the approved APD casing program need prior approval if the items substituted are of lesser grade or different casing size or are Non-API. The Operator can exchange the components of the proposal with that of superior strength (i.e. changing from J-55 to N-80, or from 36# to 40#). Changes to the approved cement program need prior approval if the altered cement plan has less volume or strength or if the changes are substantial (i.e. Multistage tool, ECP, etc.). The initial wellhead installed on the well will remain on the well with spools used as needed.
2. Wait on cement (WOC) for Potash Areas: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi for all cement blends, 2) until cement has been in place at least 24 hours. WOC time will be recorded in the driller's log. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
3. Wait on cement (WOC) for Water Basin: After cementing but before commencing any tests, the casing string shall stand cemented under pressure until both of the following conditions have been met: 1) cement reaches a minimum compressive strength of 500 psi at the shoe, 2) until cement has been in place at least 8 hours. WOC time will be recorded in the driller's log. See individual casing strings for details regarding lead cement slurry requirements. The casing integrity test can be done (prior to the cement setting up) immediately after bumping the plug.
4. Provide compressive strengths including hours to reach required 500 pounds compressive strength prior to cementing each casing string. Have well specific cement details onsite prior to pumping the cement for each casing string.
5. No pea gravel permitted for remedial or fall back remedial without prior authorization from the BLM engineer.
6. On that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Formation at the shoe shall be tested to a minimum of the mud weight equivalent anticipated to control the formation pressure to the next casing depth or at total depth of the well. This test shall be performed before drilling more than 20 feet of new hole.
7. If hardband drill pipe is rotated inside casing, returns will be monitored for metal. If metal is found in samples, drill pipe will be pulled and rubber protectors which have a larger diameter than the tool joints of the drill pipe will be installed prior to continuing drilling operations.
8. Whenever a casing string is cemented in the R-111-P potash area, the NMOCD requirements shall be followed.

B. PRESSURE CONTROL

1. All blowout preventer (BOP) and related equipment (BOPE) shall comply with well control requirements as described in Onshore Oil and Gas Order No. 2 and API RP 53 Sec. 17.
2. If a variance is approved for a flexible hose to be installed from the BOP to the choke manifold, the following requirements apply: The flex line must meet the requirements of API 16C. Check condition of flexible line from BOP to choke manifold, replace if exterior is damaged or if line fails test. Line to be as straight as possible with no hard bends and is to be anchored according to Manufacturer's requirements. The flexible hose can be exchanged with a hose of equal size and equal or greater pressure rating. Anchor requirements, specification sheet and hydrostatic pressure test certification matching the hose in service, to be onsite for review. These documents shall be posted in the company man's trailer and on the rig floor.
3. 5M or higher system requires an HCR valve, remote kill line and annular to match. The remote kill line is to be installed prior to testing the system and tested to stack pressure.
4. If the operator has proposed a multi-bowl wellhead assembly in the APD. The following requirements must be met:
 - a. Wellhead shall be installed by manufacturer's representatives, submit documentation with subsequent sundry.
 - b. If the welding is performed by a third party, the manufacturer's representative shall monitor the temperature to verify that it does not exceed the maximum temperature of the seal.
 - c. Manufacturer representative shall install the test plug for the initial BOP test.
 - d. Whenever any seal subject to test pressure is broken, all the tests in OOGO2.III.A.2.i must be followed.
 - e. If the cement does not circulate and one inch operations would have been possible with a standard wellhead, the well head shall be cut off, cementing operations performed and another wellhead installed.
5. The appropriate BLM office shall be notified a minimum of 4 hours in advance for a representative to witness the tests.
 - a. In a water basin, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. The casing cut-off and BOP installation can be initiated four hours after installing the slips, which will be approximately six hours after bumping the plug. For those casing strings not using slips, the minimum wait time before cut-off is eight hours after bumping the plug. BOP/BOPE testing can begin after cut-off or once cement reaches 500 psi compressive strength (including

lead when specified), whichever is greater. However, if the float does not hold, cut-off cannot be initiated until cement reaches 500 psi compressive strength (including lead when specified).

- b. In potash areas, for all casing strings utilizing slips, these are to be set as soon as the crew and rig are ready and any fallback cement remediation has been done. For all casing strings, casing cut-off and BOP installation can be initiated at twelve hours after bumping the plug. However, **no tests** shall commence until the cement has had a minimum of 24 hours setup time, except the casing pressure test can be initiated immediately after bumping the plug (only applies to single stage cement jobs).
- c. The tests shall be done by an independent service company utilizing a test plug not a cup or J-packer. The operator also has the option of utilizing an independent tester to test without a plug (i.e. against the casing) pursuant to Onshore Order 2 with the pressure not to exceed 70% of the burst rating for the casing. Any test against the casing must meet the WOC time for water basin (8 hours) or potash (24 hours) or 500 pounds compressive strength, whichever is greater, prior to initiating the test (see casing segment as lead cement may be critical item).
- d. The test shall be run on a 5000 psi chart for a 2-3M BOP/BOP, on a 10000 psi chart for a 5M BOP/BOPE and on a 15000 psi chart for a 10M BOP/BOPE. If a linear chart is used, it shall be a one hour chart. A circular chart shall have a maximum 2 hour clock. If a twelve hour or twenty-four hour chart is used, tester shall make a notation that it is run with a two hour clock.
- e. The results of the test shall be reported to the appropriate BLM office.
- f. All tests are required to be recorded on a calibrated test chart. A copy of the BOP/BOPE test chart and a copy of independent service company test will be submitted to the appropriate BLM office.
- g. The BOP/BOPE test shall include a low pressure test from 250 to 300 psi. The test will be held for a minimum of 10 minutes if test is done with a test plug and 30 minutes without a test plug. This test shall be performed prior to the test at full stack pressure.
- h. BOP/BOPE must be tested by an independent service company within 500 feet of the top of the Wolfcamp formation if the time between the setting of the intermediate casing and reaching this depth exceeds 20 days. This test does not exclude the test prior to drilling out the casing shoe as per Onshore Order No. 2.

C. DRILLING MUD

Mud system monitoring equipment, with derrick floor indicators and visual and audio alarms, shall be operating before drilling into the Wolfcamp formation, and shall be used until production casing is run and cemented.

D. WASTE MATERIAL AND FLUIDS

All waste (i.e. drilling fluids, trash, salts, chemicals, sewage, gray water, etc.) created as a result of drilling operations and completion operations shall be safely contained and disposed of properly at a waste disposal facility. No waste material or fluid shall be disposed of on the well location or surrounding area.

Porto-johns and trash containers will be on-location during fracturing operations or any other crew-intensive operations.

ZS 051722

DISTRICT I
1625 N. FRENCH DR., HOBBS, NM 88240
Phone: (575) 393-6161 Fax: (575) 393-0720

DISTRICT II
811 S. FIRST ST., ARTESIA, NM 88210
Phone: (575) 748-1283 Fax: (575) 748-9720

DISTRICT III
1000 RIO BRAZOS RD., AZTEC, NM 87410
Phone: (505) 334-6178 Fax: (505) 334-6170

DISTRICT IV
1220 S. ST. FRANCIS DR., SANTA FE, NM 87505
Phone: (505) 478-3480 Fax: (505) 478-3482

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 SOUTH ST. FRANCIS DR.
Santa Fe, New Mexico 87505

Form C-102

Revised August 1, 2011

Submit one copy to appropriate

District Office

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

WC-025 G-08

S243217P;UPR WC

API Number 30-025- 50384	Pool Code 98252 98248	Pool Name Mesa Verde, Wolfcamp
Property Code 333084	Property Name WINDWARD FEDERAL	Well Number 706H
GRID No. 229137	Operator Name COG OPERATING, LLC	Elevation 3541.4'

Surface Location

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
1	30	24-S	32-E		710	NORTH	700	WEST	LEA

Bottom Hole Location If Different From Surface

UL or lot No.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
4	31	24-S	32-E		50	SOUTH	330	WEST	LEA

Dedicated Acres	Joint or Infill	Consolidation Code	Order No.
691.72			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

FTP 100' FNL & 330' FWL Y=435332.5 N X=730471.5 E LAT.=32.195328° N LONG.=103.721905° W GRID AZ. TO FTP 328°23'42" POINT LEGEND <table border="1"> <tr><td>1</td><td>Y=435430.2 N X=730140.9 E</td></tr> <tr><td>2</td><td>Y=432790.7 N X=730157.0 E</td></tr> <tr><td>3</td><td>Y=430150.9 N X=730172.3 E</td></tr> <tr><td>4</td><td>Y=427509.5 N X=730189.1 E</td></tr> <tr><td>5</td><td>Y=424873.0 N X=730205.8 E</td></tr> <tr><td>6</td><td>Y=424886.2 N X=733060.2 E</td></tr> <tr><td>7</td><td>Y=430176.4 N X=733021.2 E</td></tr> <tr><td>8</td><td>Y=435450.5 N X=732978.6 E</td></tr> </table> LTP 100' FSL & 330' FWL Y=424974.5 N X=730535.1 E LAT.=32.166855° N LONG.=103.721890° W	1	Y=435430.2 N X=730140.9 E	2	Y=432790.7 N X=730157.0 E	3	Y=430150.9 N X=730172.3 E	4	Y=427509.5 N X=730189.1 E	5	Y=424873.0 N X=730205.8 E	6	Y=424886.2 N X=733060.2 E	7	Y=430176.4 N X=733021.2 E	8	Y=435450.5 N X=732978.6 E	NAD 83 NME SURFACE LOCATION Y=434725.2 N X=730845.2 E LAT.=32.193653° N LONG.=103.720708° W NAD 83 NME PROPOSED BOTTOM HOLE LOCATION Y=424924.5 N X=730535.4 E LAT.=32.166718° N LONG.=103.721890° W	OPERATOR CERTIFICATION I hereby certify that the information herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division. <i>Stan Wagner</i> 1/11/2021 Signature Date Stan Wagner Printed Name E-mail Address SURVEYOR CERTIFICATION I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief. NOVEMBER 3, 2020 Date of Survey Signature & Seal of Professional Surveyor <i>Chad L. Harcrow</i> 12/3/20 Certificate No. CHAD HARCROW 17777 W.O. # 20-1591 DRAWN BY: WN
1	Y=435430.2 N X=730140.9 E																	
2	Y=432790.7 N X=730157.0 E																	
3	Y=430150.9 N X=730172.3 E																	
4	Y=427509.5 N X=730189.1 E																	
5	Y=424873.0 N X=730205.8 E																	
6	Y=424886.2 N X=733060.2 E																	
7	Y=430176.4 N X=733021.2 E																	
8	Y=435450.5 N X=732978.6 E																	

Intent ☒ As Drilled ☐

API # 30-025		
Operator Name: COG Operating LLC	Property Name: Winward Federal	Well Number 706H

Kick Off Point (KOP)

UL	Section 30	Township 24S	Range 32E	Lot 1	Feet	From N/S	Feet	From E/W	County Lea
Latitude					Longitude				NAD 83

First Take Point (FTP)

UL D	Section 30	Township 24S	Range 32E	Lot	Feet 100	From N/S North	Feet 330	From E/W West	County Lea
Latitude 32.195328					Longitude -103.721905				NAD NAD 83

Last Take Point (LTP)

UL M	Section 31	Township 24S	Range 32E	Lot	Feet 100	From N/S South	Feet 330	From E/W West	County Lea
Latitude 32.166855					Longitude -103.721890				NAD NAD 83

Is this well the defining well for the Horizontal Spacing Unit? ☐ NoIs this well an infill well? ☐ Yes

If infill is yes please provide API if available, Operator Name and well number for Defining well for Horizontal Spacing Unit.

API # 30-025-		
Operator Name: COG Operating LLC	Property Name: Winward Federal	Well Number 705H

KZ 06/29/2018

State of New Mexico
Energy, Minerals and Natural Resources Department

Submit Electronically
Via E-permitting

Oil Conservation Division

1220 South St. Francis Dr.
Santa Fe, NM 87505

NATURAL GAS MANAGEMENT PLAN

This Natural Gas Management Plan must be submitted with each Application for Permit to Drill (APD) for a new or recompleted well.

Section 1 – Plan Description

Effective May 25, 2021

I. Operator: COG Operating LLC

OGRID: 229137

Date: 06/22/2022

II. Type: ☒ Original ☐ Amendment due to ☐ 19.15.27.9.D(6)(a) NMAC ☐ 19.15.27.9.D(6)(b) NMAC ☐ Other.

If Other, please describe: _____

III. Well(s): Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	ULSTR	Footages	Anticipated Oil BBL/D	Anticipated Gas MCF/D	Anticipated Produced Water BBL/D
Windward Federal 701H	30-025-	A-30-24S-32E	685 FNL & 1215 FEL	± 1801	± 5071	± 2019
Windward Federal 702H	30-025-	A-30-24S-32E	685 FNL & 1245 FEL	± 1801	± 5071	± 2019
Windward Federal 703H	30-025-	A-30-24S-32E	685 FNL & 1275 FEL	± 1801	± 5071	± 2019
Windward Federal 704H	30-025-	1-30-24S-32E	710 FNL & 760 FWL	± 1801	± 5071	± 2019
Windward Federal 705H	30-025-	1-30-24S-32E	710 FNL & 730 FWL	± 1801	± 5071	± 2019
Windward Federal 706H	30-025-	1-30-24S-32E	710 FNL & 700 FWL	± 1801	± 5071	± 2019

IV. Central Delivery Point Name: Windward Federal 30 C CTB NE/NW 30-24S-32E [See 19.15.27.9(D)(1) NMAC]

V. Anticipated Schedule: Provide the following information for each new or recompleted well or set of wells proposed to be drilled or proposed to be recompleted from a single well pad or connected to a central delivery point.

Well Name	API	Spud Date	TD Reached Date	Completion Commencement Date	Initial Flow Back Date	First Production Date
Windward Federal	Pending	± 6/1/2024	± 25 days from spud	TBD	TBD	TBD
701H, 702H, 703H, 704H, 705H, 706H						

VI. Separation Equipment: ☒ Attach a complete description of how Operator will size separation equipment to optimize gas capture.

VII. Operational Practices: ☒ Attach a complete description of the actions Operator will take to comply with the requirements of Subsection A through F of 19.15.27.8 NMAC.

VIII. Best Management Practices: ☒ Attach a complete description of Operator's best management practices to minimize venting during active and planned maintenance.

Section 2 – Enhanced Plan
EFFECTIVE APRIL 1, 2022

Beginning April 1, 2022, an operator that is not in compliance with its statewide natural gas capture requirement for the applicable reporting area must complete this section.

☒ Operator certifies that it is not required to complete this section because Operator is in compliance with its statewide natural gas capture requirement for the applicable reporting area.

IX. Anticipated Natural Gas Production:

Well	API	Anticipated Average Natural Gas Rate MCF/D	Anticipated Volume of Natural Gas for the First Year MCF

X. Natural Gas Gathering System (NGGS):

Operator	System	ULSTR of Tie-in	Anticipated Gathering Start Date	Available Maximum Daily Capacity of System Segment Tie-in

XI. Map. ☐ Attach an accurate and legible map depicting the location of the well(s), the anticipated pipeline route(s) connecting the production operations to the existing or planned interconnect of the natural gas gathering system(s), and the maximum daily capacity of the segment or portion of the natural gas gathering system(s) to which the well(s) will be connected.

XII. Line Capacity. The natural gas gathering system ☐ will ☐ will not have capacity to gather 100% of the anticipated natural gas production volume from the well prior to the date of first production.

XIII. Line Pressure. Operator ☐ does ☐ does not anticipate that its existing well(s) connected to the same segment, or portion, of the natural gas gathering system(s) described above will continue to meet anticipated increases in line pressure caused by the new well(s).

☐ Attach Operator's plan to manage production in response to the increased line pressure.

XIV. Confidentiality: ☐ Operator asserts confidentiality pursuant to Section 71-2-8 NMSA 1978 for the information provided in Section 2 as provided in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and attaches a full description of the specific information for which confidentiality is asserted and the basis for such assertion.

Section 3 - Certifications

Effective May 25, 2021

Operator certifies that, after reasonable inquiry and based on the available information at the time of submittal:

☒ Operator will be able to connect the well(s) to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system; or

☐ Operator will not be able to connect to a natural gas gathering system in the general area with sufficient capacity to transport one hundred percent of the anticipated volume of natural gas produced from the well(s) commencing on the date of first production, taking into account the current and anticipated volumes of produced natural gas from other wells connected to the pipeline gathering system.

If Operator checks this box, Operator will select one of the following:

Well Shut-In. ☐ Operator will shut-in and not produce the well until it submits the certification required by Paragraph (4) of Subsection D of 19.15.27.9 NMAC; or

Venting and Flaring Plan. ☐ Operator has attached a venting and flaring plan that evaluates and selects one or more of the potential alternative beneficial uses for the natural gas until a natural gas gathering system is available, including:

- (a) power generation on lease;
- (b) power generation for grid;
- (c) compression on lease;
- (d) liquids removal on lease;
- (e) reinjection for underground storage;
- (f) reinjection for temporary storage;
- (g) reinjection for enhanced oil recovery;
- (h) fuel cell production; and
- (i) other alternative beneficial uses approved by the division.

Section 4 - Notices

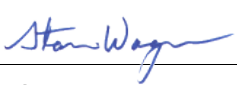
1. If, at any time after Operator submits this Natural Gas Management Plan and before the well is spud:

(a) Operator becomes aware that the natural gas gathering system it planned to connect the well(s) to has become unavailable or will not have capacity to transport one hundred percent of the production from the well(s), no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised venting and flaring plan containing the information specified in Paragraph (5) of Subsection D of 19.15.27.9 NMAC; or

(b) Operator becomes aware that it has, cumulatively for the year, become out of compliance with its baseline natural gas capture rate or natural gas capture requirement, no later than 20 days after becoming aware of such information, Operator shall submit for OCD's approval a new or revised Natural Gas Management Plan for each well it plans to spud during the next 90 days containing the information specified in Paragraph (2) of Subsection D of 19.15.27.9 NMAC, and shall file an update for each Natural Gas Management Plan until Operator is back in compliance with its baseline natural gas capture rate or natural gas capture requirement.

2. OCD may deny or conditionally approve an APD if Operator does not make a certification, fails to submit an adequate venting and flaring plan which includes alternative beneficial uses for the anticipated volume of natural gas produced, or if OCD determines that Operator will not have adequate natural gas takeaway capacity at the time a well will be spud.

I certify that, after reasonable inquiry, the statements in and attached to this Natural Gas Management Plan are true and correct to the best of my knowledge and acknowledge that a false statement may be subject to civil and criminal penalties under the Oil and Gas Act.

Signature: 
Printed Name: Stan Wagner
Title: Regulatory Advisor
E-mail Address: stan.s.wagner@conocophillips.com
Date: 06/23/2022
Phone: 432-253-9685
OIL CONSERVATION DIVISION (Only applicable when submitted as a standalone form)
Approved By:
Title:
Approval Date:
Conditions of Approval:

VI. Separation Equipment

How Operator will size separation equipment to optimize gas capture:

All ConocoPhillips production facility equipment will be sized per industry standards (API 12J) with adequate retention time to effectively separate all phases of production. Each project will take into consideration the number of wells and type curves for each formation pool to ensure adequate facility capacity. Design considerations will also include review of all piping, tanks, VRU's and associated equipment to ensure optimized gas capture minimized risk of release.

VII. Operational Practices

Actions Operator will take to comply with the requirements below:

B. Drilling Operations

- During drilling, flare stacks will be located a minimum of 100 feet from the nearest surface hole location. All gas is captured or combusted. If an emergency or malfunction occurs, gas will be flared or vented for public health, safety, and the environment and be properly reported to the NMOCD pursuant to 19.15.27.8.G.
- Measure or estimate the volume of natural gas that is vented, flared or beneficially used during drilling, completion and production operations, regardless of the reason or authorization for such venting or flaring.

C. Completion Operations

- During completion operations, operator does not produce oil or gas but maintains adequate well control through completion operations.
- Individual well test separators will be set to properly separate gas and liquids. A temporary test separator will be utilized initially to process volumes. In addition, separators will be tied into flowback tanks which will be tied into the gas processing equipment for sales down a pipeline.

D. Venting and flaring during production operations

- During each phase of well life (drilling, completion and production) of a ConocoPhillips well, COP personnel will follow all necessary procedures to ensure both the operation and the equipment are within the NMAC 19.15.27.8 Subsection D guidelines.
- During well operations that require unloading of the well to atmospheric pressure, all reasonable actions will be taken to minimize vented gas
- Through the life of the well all flaring shall be measured, and venting events quantified using the data available and industry best practice.

E. Performance standards for separation, storage tank and flare equipment

- All storage tanks and separation equipment are designed minimize risk of liquid or vapor release and optimize gas capture. This includes automation for automatic gauging and pressure monitoring.

- All flare stacks are equipped with auto ignition devices and/or continuous pilots and are designed to operate at maximum combustion efficiency pursuant NMAC 19.15.27.8 Subsection E. Flares will follow COP spacing guidelines to ensure they are a safe distance from combustibles and operations equipment.
- COP personnel will conduct routine AVO inspections on a regular basis per NMAC 19.15.27.8 Subsection E guidelines.

F. Measurement of vented and flared natural gas.

- Measurement equipment will be installed to quantify gas flared during drilling, completion and production of the well.
- All measurement devices installed will meet accuracy ratings per AGA and API standards.
- Measurement devices will be installed without manifolds that allow diversion of gas around the metering element, except for the sole purpose of inspection of servicing the measurement device.

VIII. Best Management Practices

- Operator will curtail or shut in production, within reasonable limits, during upset conditions to minimize venting and flaring.
- When feasible, Operator will use equipment to capture gas that would otherwise be vented or flared.
- During completions and production operations Operator will minimize blowdowns to atmosphere
- When feasible, Operator will use electric or air actuated equipment to reduce bleed emissions

COG Operating, LLC - Winward Federal Com #706H

1. Geologic Formations

TVD of target	11,994' EOL	Pilot hole depth	NA
MD at TD:	21,870'	Deepest expected fresh water:	380'

Formation	Depth (TVD) from KB	Water/Mineral Bearing/ Target Zone?	Hazards*
Quaternary Fill	Surface	Water	
Rustler	705	Water	
Top of Salt	1029	Salt	
Base of Salt	4305	Salt	
Lamar	4532	Salt Water	
Bell Canyon	4562	Salt Water	
Cherry Canyon	5479	Oil/Gas	
Brushy Canyon	6763	Oil/Gas	
Bone Spring Lime	8445	Oil/Gas	
1st Bone Spring Sand	9589	Oil/Gas	
2nd Bone Spring Sand	10206	Oil/Gas	
3rd Bone Spring Sand	11437	Oil/Gas	
Wolfcamp	11871	Target Oil/Gas	
Wolfcamp B	12362	Not Penetrated	

2. Casing Program

Hole Size	Casing Interval		Csg. Size	Weight (lbs)	Grade	Conn.	SF Collapse	SF Burst	SF Body	SF Joint
	From	To								
14.75"	0	979	10.75"	45.5	N80	BTC	5.64	1.58	23.35	24.63
9.875"	0	8500	7.625"	29.7	HCL80	BTC	1.50	1.16	2.88	2.90
8.750"	8500	11387	7.625"	29.7	HCP 110	TL-FJ	1.27	1.20	2.78	1.95
6.75"	0	11187	5.5"	23	P110	BTC	1.94	2.31	2.64	2.62
6.75"	11187	21,870	5.5"	23	P110	Talon HTQ	1.94	2.31	2.64	2.56
BLM Minimum Safety Factor							1.125	1	1.6 Dry 1.8 Wet	1.6 Dry 1.8 Wet

Intermediate casing will be kept at least 1/3 full while running casing to mitigate collapse. Intermediate burst based on 0.7 frac gradient at the shoe with Gas Gradient 0.1 psi/ft to surface.

All casing strings will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.h

COG Operating, LLC - Winward Federal Com #706H

	Y or N
Is casing new? If used, attach certification as required in Onshore Order #1	Y
Does casing meet API specifications? If no, attach casing specification sheet.	Y
Is premium or uncommon casing planned? If yes attach casing specification sheet.	N
Does the above casing design meet or exceed BLM's minimum standards? If not provide justification (loading assumptions, casing design criteria).	Y
Will the intermediate pipe be kept at a minimum 1/3 fluid filled to avoid approaching the collapse pressure rating of the casing?	Y
Is well located within Capitan Reef?	N
If yes, does production casing cement tie back a minimum of 50' above the Reef?	
Is well within the designated 4 string boundary?	
Is well located in SOPA but not in R-111-P?	N
If yes, are the first 2 strings cemented to surface and 3 rd string cement tied back 500' into previous casing?	
Is well located in R-111-P and SOPA?	N
If yes, are the first three strings cemented to surface?	
Is 2 nd string set 100' to 600' below the base of salt?	
Is well located in high Cave/Karst?	N
If yes, are there two strings cemented to surface?	
(For 2 string wells) If yes, is there a contingency casing if lost circulation occurs?	
Is well located in critical Cave/Karst?	N
If yes, are there three strings cemented to surface?	

COG Operating, LLC - Winward Federal Com #706H

3. Cementing Program

Casing	# Sks	Wt. lb/ gal	Yld ft ³ / sack	H ₂ O gal/sk	500# Comp. Strength (hours)	Slurry Description
Surf.	400	13.5	1.75	9	12	Lead: Class C + 4% Gel
	250	14.8	1.34	6.34	8	Tail: Class C + 2% CaCl ₂
Inter.	1400	11	2.8	19	48	Lead: NeoCem
	300	16.4	1.1	5	8	Tail: Class H
5.5 Prod	750	12.7	2	10.6	16	Lead: 35:65:6 H Blend
	1200	14.4	1.24	5.7	19	Tail: 50:50:2 Class H Blend

Volumes Subject to Observed Hole Conditions and/or Fluid Caliper Results

Lab reports with the 500 psi compressive strength time for the cement will be onsite for review.

Casing String	TOC	% Excess
Surface	0'	50%
1 st Intermediate	0'	50%
Production	8,000'	35%

COG Operating, LLC - Winward Federal Com #706H

4. Pressure Control Equipment

N	A variance is requested for the use of a diverter on the surface casing. See attached for schematic.
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BOP installed and tested before drilling which hole?	Size?	Min. Required WP	Type	x	Tested to:
9-7/8"	13-5/8"	5M	Annular	x	2500psi
			Blind Ram	x	5000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		
6-3/4"	13-5/8"	10M	5M Annular	x	3500 psi
			Blind Ram	x	10000psi
			Pipe Ram	x	
			Double Ram	x	
			Other*		

BOP and BOPE will be installed per Onshore Order #2 requirements prior to drilling below the surface casing and will be rated to the above pressure rating or greater, see attached diagrams. Required safety valves, with appropriate wrenches and subs for the drill string being utilized, will be in the open position and accessible on the rig floor.

BOP/BOPE will be tested by an independent service company to 250 psi low and the high pressure indicated above per Onshore Order 2 requirements. The System may be upgraded to a higher pressure but still tested to the working pressure listed in the table above. If the system is upgraded all the components installed will be functional and tested.

Pipe rams will be operationally checked each 24 hour period. Blind rams will be operationally checked on each trip out of the hole. These checks will be noted on the daily tour sheets. Other accessories to the BOP equipment will include a Kelly cock and floor safety valves (inside BOP and full-opening valve) with appropriate wrenches and choke lines and choke manifold. See attached schematics.

Y	Formation integrity test will be performed per Onshore Order #2. On Exploratory wells or on that portion of any well approved for a 5M BOPE system or greater, a pressure integrity test of each casing shoe shall be performed. Will be tested in accordance with Onshore Oil and Gas Order #2 III.B.1.i.
Y	A variance is requested for the use of a flexible choke line from the BOP to Choke Manifold. See attached for specs and hydrostatic test chart.
N	Are anchors required by manufacturer?
Y	A multibowl wellhead is being used. The BOP will be tested per Onshore Order #2 after installation on the surface casing which will cover testing requirements for a maximum of 30 days. If any seal subject to test pressure is broken the system must be tested.

COG Operating, LLC - Winward Federal Com #706H

5. Mud Program

Depth		Type	Weight (ppg)	Viscosity	Water Loss
From	To				
0	Surf. Shoe	FW Gel	8.4 - 8.6	28-29	N/C
Surf csg	Int shoe	Diesel Brine Emul	8.6 - 9.4	30-40	N/C
Int shoe	Lateral TD	OBM	10.5 - 12	30-40	20

Sufficient mud materials to maintain mud properties and meet minimum lost circulation and weight increase requirements will be kept on location at all times.

What will be used to monitor the loss or gain of fluid?	PVT/Pason/Visual Monitoring
---	-----------------------------

6. Logging and Testing Procedures

Logging, Coring and Testing.	
Y	Will run GR/CNL from TD to surface (horizontal well – vertical portion of hole). Stated logs run will be in the Completion Report and submitted to the BLM.
N	Are Logs are planned based on well control or offset log information.
N	Drill stem test? If yes, explain.
N	Coring? If yes, explain.

Additional logs planned		Interval
N	Resistivity	Pilot Hole TD to ICP
N	Density	Pilot Hole TD to ICP
Y	CBL	Production casing (If cement not circulated to surface)
Y	Mud log	Intermediate shoe to TD
N	PEX	

COG Operating, LLC - Winward Federal Com #706H**7. Drilling Conditions**

Condition	Specify what type and where?
BH Pressure at deepest TVD	7485 psi at 11994' TVD
Abnormal Temperature	NO 175 Deg. F.

No abnormal pressure or temperature conditions are anticipated. Sufficient mud materials to maintain mud properties and weight increase requirements will be kept on location at all times.

Sufficient supplies of Paper/LCM for periodic sweeps to control seepage and losses will be maintained on location.

Hydrogen Sulfide (H ₂ S) monitors will be installed prior to drilling out the surface shoe. If H ₂ S is detected in concentrations greater than 100 ppm, the operator will comply with the provisions of Onshore Oil and Gas Order #6. If Hydrogen Sulfide is encountered, measured values and formations will be provided to the BLM.	
N	H ₂ S is present
Y	H ₂ S Plan attached

8. Other Facets of Operation

Y	Is it a walking operation?
Y	Is casing pre-set?

x	H ₂ S Plan.
x	BOP & Choke Schematics.
x	Directional Plan
x	5M Annular Variance

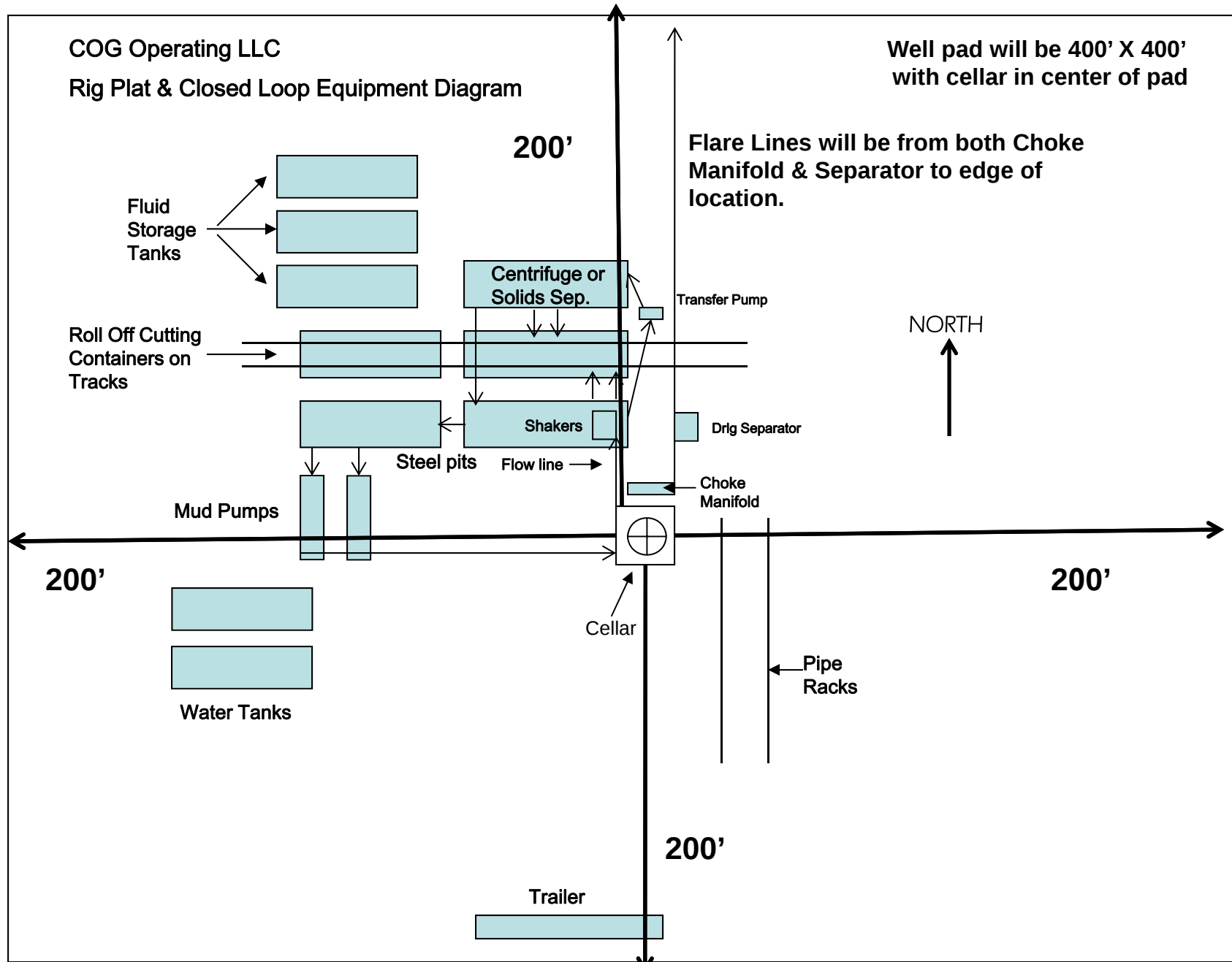


Exhibit 1

"I further certify that COG will comply with Rule 19.15.17 NMAC by using a Closed Loop System."

DELAWARE BASIN EAST
BULLDOG PROSPECT (NM-E)
WINDWARD FEDERAL PROJECT (BULLDOG 2432)
WINDWARD FED #706H

OWB
PWP1

Anticollision Report

11 December, 2020

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Reference	PWP1		
Filter type:	NO GLOBAL FILTER: Using user defined selection & filtering criteria		
Interpolation Method:	Stations	Error Model:	ISCWSA
Depth Range:	Unlimited	Scan Method:	Closest Approach 3D
Results Limited by:	Maximum ellipse separation of 2,000.0 usft	Error Surface:	Pedal Curve
Warning Levels Evaluated at:	2.00 Sigma	Casing Method:	Not applied

Survey Tool Program			Date	12/11/2020	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	21,870.0	PWP1 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction	

Summary						
Site Name Offset Well - Wellbore - Design	Reference Measured Depth (usft)	Offset Measured Depth (usft)	Distance Between Centres (usft)	Between Ellipses (usft)	Separation Factor	Warning
WINDWARD FEDERAL PROJECT (BULLDOG 2432)						
KING TUT FEDERAL #1H - OWB - ACTUAL WELLPATH	8,200.0	8,279.7	218.4	156.1	3.509	SF
KING TUT FEDERAL #1H - OWB - ACTUAL WELLPATH	8,264.5	8,324.1	213.1	154.8	3.657	CC, ES
WINDWARD FED #704H - OWB - PWP1	2,500.0	2,499.6	60.0	47.3	4.730	CC, ES, SF
WINDWARD FED #705H - OWB - PWP1	2,500.0	2,499.6	30.0	11.5	1.624	Advise and Monitor, CC, I
WINDWARD FEDERAL #1H - OWB - ACTUAL WELLPA	10,328.4	10,398.4	159.0	96.8	2.556	CC, ES, SF
WINDWARD FEDERAL #5H - OWB - ACTUAL WELLPA	9,119.1	9,157.7	113.8	63.3	2.253	CC, ES, SF
WINDWARD FEDERAL #6H - OWB - ACTUAL WELLPA	8,894.5	8,895.2	101.3	62.7	2.622	CC
WINDWARD FEDERAL #6H - OWB - ACTUAL WELLPA	8,900.0	8,900.2	101.3	62.6	2.620	ES, SF

Offset Design		WINDWARD FEDERAL PROJECT (BULLDOG 2432) - KING TUT FEDERAL #1H - OWB - ACTUAL W										Offset Site Error:		0.0 usft		
Survey Program: 211-MWD, 4639-MWD, 7802-MWD														Offset Well Error:		2.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning		
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor				
0.0	0.0	0.0	0.0	3.0	2.0	-35.81	517.3	-373.2	637.9							
100.0	100.0	101.1	101.1	3.0	2.1	-35.77	517.4	-372.7	637.7	632.6	5.11	124.771				
200.0	200.0	203.6	203.6	3.0	2.5	-35.64	517.8	-371.2	637.1	631.6	5.45	116.962				
300.0	300.0	299.7	299.7	3.1	2.8	-35.52	518.1	-369.8	636.6	630.7	5.83	109.248				
400.0	400.0	400.1	400.1	3.2	4.1	-35.46	518.4	-369.2	636.5	629.3	7.18	88.611				
500.0	500.0	502.0	502.0	3.4	5.8	-35.39	518.5	-368.4	636.1	627.0	9.08	70.077				
600.0	600.0	603.9	603.8	3.6	7.7	-35.30	518.6	-367.1	635.4	624.3	11.09	57.282				
700.0	700.0	705.7	705.7	3.8	9.6	-35.19	518.5	-365.6	634.4	621.2	13.17	48.170				
800.0	800.0	806.4	806.3	4.0	11.0	-35.07	518.2	-363.8	633.2	618.3	14.85	42.653				
900.0	900.0	905.3	905.2	4.2	11.8	-34.97	517.9	-362.3	632.1	616.2	15.88	39.802				
1,000.0	1,000.0	1,005.0	1,004.9	4.5	12.4	-34.92	517.5	-361.2	631.1	614.2	16.85	37.451				
1,100.0	1,100.0	1,107.2	1,107.1	4.8	12.8	-34.86	516.8	-360.0	629.9	612.4	17.56	35.879				
1,200.0	1,200.0	1,209.4	1,209.3	5.1	13.3	-34.80	515.9	-358.5	628.4	610.1	18.28	34.379				
1,300.0	1,300.0	1,309.3	1,309.1	5.4	16.0	-34.73	515.0	-356.9	626.7	605.3	21.39	29.291				
1,400.0	1,400.0	1,408.7	1,408.5	5.7	19.5	-34.66	514.0	-355.4	625.0	600.0	25.07	24.930				
1,500.0	1,500.0	1,508.0	1,507.9	6.0	23.0	-34.60	513.2	-354.0	623.5	594.7	28.79	21.654				
1,600.0	1,600.0	1,607.4	1,607.3	6.3	26.6	-34.53	512.4	-352.6	622.0	589.5	32.54	19.114				
1,700.0	1,700.0	1,706.8	1,706.6	6.6	30.2	-34.47	511.7	-351.3	620.7	584.4	36.32	17.091				

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - KING TUT FEDERAL #1H - OWB - ACTUAL W													Offset Site Error:	0.0 usft
Survey Program: 211-MWD, 4639-MWD, 7802-MWD													Offset Well Error:	2.0 usft
Reference	Offset	Semi Major Axis		Distance										Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
1,800.0	1,800.0	1,806.2	1,806.0	6.9	33.9	-34.42	511.0	-350.1	619.5	579.3	40.11	15.446		
1,900.0	1,900.0	1,905.6	1,905.4	7.2	37.5	-34.36	510.4	-348.9	618.3	574.4	43.91	14.082		
2,000.0	2,000.0	2,005.0	2,004.8	7.6	41.2	-34.31	509.9	-347.9	617.3	569.5	47.72	12.935		
2,100.0	2,100.0	2,104.4	2,104.2	7.9	44.9	-34.25	509.4	-346.9	616.3	564.8	51.54	11.958		
2,200.0	2,200.0	2,204.4	2,204.2	8.2	46.5	-34.20	509.0	-345.9	615.4	561.9	53.46	11.512		
2,300.0	2,300.0	2,304.5	2,304.3	8.6	47.7	-34.14	508.6	-344.9	614.5	559.5	54.99	11.174		
2,400.0	2,400.0	2,404.6	2,404.4	8.9	48.9	-34.08	508.2	-343.8	613.6	557.0	56.53	10.853		
2,500.0	2,500.0	2,504.6	2,504.4	9.2	50.0	-34.01	507.8	-342.6	612.6	554.6	57.99	10.564		
2,600.0	2,600.0	2,603.7	2,603.4	9.6	50.1	-4.95	507.2	-341.9	610.0	551.6	58.43	10.440		
2,700.0	2,699.8	2,702.6	2,702.3	9.9	50.2	-5.05	506.3	-342.0	604.1	545.2	58.84	10.266		
2,800.0	2,799.6	2,802.1	2,801.8	10.3	50.3	-5.25	505.1	-342.8	596.5	537.3	59.24	10.071		
2,900.0	2,899.4	2,904.1	2,903.8	10.6	50.4	-5.39	503.9	-343.1	588.8	529.2	59.63	9.873		
3,000.0	2,999.1	3,006.0	3,005.7	10.9	50.5	-5.44	503.1	-342.2	580.7	520.6	60.05	9.669		
3,100.0	3,098.9	3,107.8	3,107.5	11.3	50.6	-5.37	502.5	-340.2	572.2	511.7	60.50	9.457		
3,200.0	3,198.6	3,208.4	3,208.1	11.6	50.8	-5.28	501.8	-337.9	563.3	502.3	61.01	9.233		
3,300.0	3,298.4	3,307.6	3,307.2	12.0	51.0	-5.19	501.1	-335.6	554.5	492.9	61.61	9.000		
3,400.0	3,398.1	3,406.8	3,406.4	12.3	51.2	-5.09	500.5	-333.2	545.7	483.5	62.21	8.773		
3,500.0	3,497.9	3,506.0	3,505.6	12.7	51.4	-4.97	500.0	-330.9	537.1	474.3	62.81	8.551		
3,600.0	3,597.6	3,606.9	3,606.5	13.0	51.6	-4.85	499.5	-328.4	528.4	465.0	63.38	8.337		
3,700.0	3,697.4	3,708.9	3,708.4	13.4	51.8	-4.75	498.6	-325.9	519.3	455.3	63.93	8.123		
3,800.0	3,797.2	3,809.0	3,808.5	13.7	51.9	-4.69	497.1	-323.6	509.9	445.5	64.39	7.918		
3,900.0	3,896.9	3,910.2	3,909.7	14.1	52.0	-4.66	495.3	-321.4	500.2	435.4	64.84	7.715		
4,000.0	3,996.7	4,009.0	4,008.4	14.4	52.1	-4.62	493.5	-319.2	490.6	425.3	65.30	7.512		
4,100.0	4,096.4	4,109.0	4,108.4	14.8	52.2	-4.59	491.7	-317.0	480.9	415.1	65.78	7.311		
4,200.0	4,196.2	4,209.4	4,208.7	15.1	52.3	-4.56	489.8	-314.8	471.1	404.9	66.25	7.111		
4,300.0	4,295.9	4,310.8	4,310.0	15.5	52.4	-4.53	487.6	-312.3	461.0	394.2	66.71	6.910		
4,400.0	4,395.7	4,410.7	4,409.9	15.8	52.6	-4.53	485.1	-310.0	450.7	383.5	67.17	6.709		
4,500.0	4,495.5	4,509.8	4,508.9	16.2	52.7	-4.53	482.5	-307.6	440.2	372.6	67.62	6.510		
4,600.0	4,595.2	4,610.9	4,609.9	16.5	52.7	-4.50	479.9	-305.0	429.7	361.7	68.03	6.316		
4,700.0	4,695.0	4,705.5	4,704.5	16.9	52.7	-4.46	477.6	-302.5	419.4	350.9	68.44	6.127		
4,800.0	4,794.7	4,796.6	4,795.6	17.2	52.8	-4.54	476.4	-301.7	410.8	342.0	68.81	5.970		
4,900.0	4,894.5	4,894.6	4,893.6	17.6	52.8	-4.77	475.8	-302.6	403.8	334.7	69.13	5.841		
5,000.0	4,994.2	4,994.6	4,993.6	17.9	52.8	-5.02	475.0	-303.4	396.6	327.2	69.46	5.711		
5,100.0	5,094.0	5,095.0	5,094.0	18.3	52.8	-5.23	474.3	-304.0	389.4	319.7	69.78	5.581		
5,200.0	5,193.7	5,194.3	5,193.3	18.7	52.8	-5.44	473.5	-304.4	382.2	312.0	70.11	5.451		
5,300.0	5,293.5	5,294.2	5,293.2	19.0	52.8	-5.67	472.9	-305.0	375.0	304.5	70.44	5.323		
5,400.0	5,393.3	5,392.9	5,391.9	19.4	52.8	-5.94	472.2	-305.7	367.9	297.1	70.76	5.199		
5,500.0	5,493.0	5,492.2	5,491.2	19.7	52.9	-6.24	471.5	-306.7	361.0	289.9	71.08	5.078		
5,600.0	5,592.8	5,592.3	5,591.3	20.1	52.9	-6.56	470.9	-307.8	354.1	282.7	71.40	4.960		
5,700.0	5,692.5	5,691.6	5,690.6	20.4	52.9	-6.89	470.2	-308.8	347.3	275.6	71.71	4.843		
5,800.0	5,792.3	5,791.6	5,790.5	20.8	52.9	-7.28	469.5	-310.0	340.5	268.5	72.02	4.728		
5,900.0	5,892.0	5,891.4	5,890.4	21.1	53.0	-7.61	469.0	-311.0	333.7	261.4	72.34	4.613		
6,000.0	5,991.8	5,991.1	5,990.0	21.5	53.0	-7.97	468.3	-311.9	326.8	254.1	72.65	4.498		
6,089.7	6,081.3	6,079.7	6,078.6	21.8	53.0	-8.25	468.1	-312.6	320.9	248.0	72.94	4.399		
6,100.0	6,091.6	6,090.0	6,088.9	21.9	53.0	-8.29	468.1	-312.7	320.2	247.3	72.97	4.388		
6,200.0	6,191.4	6,189.9	6,188.8	22.2	53.1	-8.59	467.8	-313.6	314.7	241.4	73.30	4.293		
6,300.0	6,291.3	6,289.5	6,288.4	22.6	53.1	-8.96	467.3	-315.0	311.0	237.4	73.61	4.225		
6,400.0	6,391.3	6,390.3	6,389.2	22.9	53.2	-9.31	466.7	-316.5	309.0	235.1	73.93	4.180		
6,471.2	6,462.5	6,461.3	6,460.1	23.2	53.2	-9.53	466.1	-317.4	308.5	234.3	74.17	4.159		
6,489.7	6,481.0	6,479.3	6,478.2	23.2	53.2	-38.63	466.0	-317.6	308.5	234.3	74.23	4.156		
6,500.0	6,491.3	6,489.4	6,488.3	23.3	53.2	-38.65	466.0	-317.7	308.6	234.3	74.27	4.155		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - KING TUT FEDERAL #1H - OWB - ACTUAL W													Offset Site Error:	0.0 usft
Survey Program: 211-MWD, 4639-MWD, 7802-MWD													Offset Well Error:	2.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference	Offset	Semi Major Axis	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
6,600.0	6,591.3	6,589.0	6,587.9	23.6	53.3	-38.84		465.9	-318.9	309.2	234.6	74.63	4.144	
6,700.0	6,691.3	6,688.4	6,687.2	24.0	53.3	-39.07		465.6	-320.3	309.9	235.0	74.98	4.134	
6,800.0	6,791.3	6,788.4	6,787.2	24.3	53.4	-39.38		465.2	-322.2	310.8	235.5	75.31	4.127	
6,900.0	6,891.3	6,887.2	6,886.1	24.7	53.4	-39.64		465.1	-323.9	311.8	236.2	75.66	4.121	
7,000.0	6,991.3	6,987.5	6,986.3	25.1	53.5	-39.86		465.3	-325.6	313.0	237.0	76.02	4.118	
7,100.0	7,091.3	7,088.6	7,087.4	25.4	53.6	-40.09		465.2	-327.2	314.0	237.6	76.38	4.110	
7,200.0	7,191.3	7,187.2	7,186.0	25.8	53.6	-40.31		465.2	-328.8	315.0	238.3	76.74	4.105	
7,300.0	7,291.3	7,288.4	7,287.1	26.1	53.7	-40.57		465.0	-330.5	316.0	238.9	77.11	4.098	
7,400.0	7,391.3	7,387.7	7,386.5	26.5	53.8	-40.84		464.8	-332.3	317.0	239.5	77.46	4.092	
7,500.0	7,491.3	7,487.7	7,486.4	26.8	53.8	-41.15		464.5	-334.3	318.1	240.3	77.80	4.088	
7,600.0	7,591.3	7,588.1	7,586.8	27.2	53.9	-41.48		464.1	-336.4	319.1	241.0	78.15	4.083	
7,700.0	7,691.3	7,689.2	7,687.9	27.5	54.0	-41.84		463.3	-338.4	319.9	241.4	78.49	4.076	
7,800.0	7,791.3	7,789.6	7,788.3	27.9	54.0	-42.44		460.3	-340.2	319.2	240.5	78.65	4.058	
7,900.0	7,891.3	7,889.0	7,887.9	28.2	54.1	-46.51		427.6	-338.5	303.3	227.5	75.78	4.002	
8,000.0	7,991.3	8,090.0	8,074.1	28.6	54.1	-54.32		377.9	-337.9	275.4	203.3	72.05	3.822	
8,100.0	8,091.3	8,202.7	8,167.8	29.0	54.2	-66.87		315.6	-337.0	243.4	176.9	66.45	3.663	
8,200.0	8,191.3	8,279.7	8,225.0	29.3	54.2	-79.55		264.1	-337.0	218.4	156.1	62.24	3.509 SF	
8,264.5	8,255.7	8,324.1	8,254.3	29.5	54.2	-88.45		230.8	-338.0	213.1	154.8	58.26	3.657 CC, ES	
8,300.0	8,291.3	8,347.2	8,268.7	29.7	54.2	-93.31		212.7	-338.4	214.8	159.0	55.79	3.850	
8,400.0	8,391.3	8,404.5	8,301.6	30.0	54.3	-105.47		165.9	-338.6	238.6	188.8	49.80	4.791	
8,500.0	8,491.3	8,449.2	8,324.8	30.4	54.3	-114.57		127.6	-337.9	286.5	240.3	46.22	6.198	
8,600.0	8,591.3	8,481.6	8,339.6	30.7	54.3	-120.75		98.9	-337.0	351.4	307.7	43.69	8.044	
8,700.0	8,691.3	8,506.5	8,349.7	31.1	54.3	-125.20		76.1	-336.1	427.2	385.5	41.68	10.248	
8,800.0	8,791.3	8,524.0	8,356.1	31.4	54.3	-128.12		59.8	-335.5	509.7	469.7	39.96	12.756	
8,900.0	8,891.3	8,546.2	8,363.5	31.8	54.3	-131.60		38.9	-334.6	596.4	557.2	39.14	15.238	
9,000.0	8,991.3	8,556.0	8,366.5	32.2	54.3	-133.06		29.6	-334.1	685.9	647.9	38.01	18.046	
9,100.0	9,091.3	8,576.6	8,372.4	32.5	54.3	-135.99		9.8	-332.9	777.3	739.6	37.78	20.577	
9,200.0	9,191.3	8,596.0	8,377.3	32.9	54.3	-138.56		-8.8	-331.4	870.4	832.7	37.65	23.120	
9,300.0	9,291.3	8,596.0	8,377.3	33.2	54.3	-138.56		-8.8	-331.4	964.4	927.5	36.89	26.139	
9,400.0	9,391.3	8,596.0	8,377.3	33.6	54.3	-138.56		-8.8	-331.4	1,059.5	1,023.1	36.38	29.123	
9,500.0	9,491.3	8,613.5	8,381.2	33.9	54.3	-140.72		-25.8	-330.1	1,155.0	1,118.5	36.55	31.603	
9,600.0	9,591.3	8,628.0	8,384.0	34.3	54.3	-142.39		-40.0	-329.2	1,251.4	1,214.7	36.67	34.121	
9,700.0	9,691.3	8,628.0	8,384.0	34.6	54.3	-142.39		-40.0	-329.2	1,348.0	1,311.5	36.48	36.957	
9,800.0	9,791.3	8,628.0	8,384.0	35.0	54.3	-142.39		-40.0	-329.2	1,445.1	1,408.7	36.37	39.735	
9,900.0	9,891.3	8,628.0	8,384.0	35.4	54.3	-142.39		-40.0	-329.2	1,542.5	1,506.2	36.33	42.456	
10,000.0	9,991.3	8,628.0	8,384.0	35.7	54.3	-142.39		-40.0	-329.2	1,640.3	1,604.0	36.36	45.118	
10,100.0	10,091.3	8,642.2	8,386.4	36.1	54.4	-143.91		-54.0	-328.4	1,738.1	1,701.4	36.67	47.398	
10,200.0	10,191.3	8,645.5	8,386.9	36.4	54.4	-144.25		-57.3	-328.2	1,836.2	1,799.4	36.81	49.878	
10,300.0	10,291.3	8,659.0	8,388.8	36.8	54.4	-145.57		-70.6	-327.6	1,934.6	1,897.4	37.14	52.086	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #704H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11595-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	3.0	89.62	0.4	60.0	60.0				
100.0	100.0	99.6	99.6	3.0	3.0	89.62	0.4	60.0	60.0	54.0	6.00	9.995	
200.0	200.0	199.6	199.6	3.0	3.0	89.62	0.4	60.0	60.0	54.0	6.04	9.932	
300.0	300.0	299.6	299.6	3.1	3.0	89.62	0.4	60.0	60.0	53.9	6.12	9.800	
400.0	400.0	399.6	399.6	3.2	3.0	89.62	0.4	60.0	60.0	53.8	6.24	9.611	
500.0	500.0	499.6	499.6	3.4	3.1	89.62	0.4	60.0	60.0	53.6	6.40	9.375	
600.0	600.0	599.6	599.6	3.6	3.1	89.62	0.4	60.0	60.0	53.4	6.59	9.108	
700.0	700.0	699.6	699.6	3.8	3.1	89.62	0.4	60.0	60.0	53.2	6.80	8.820	
800.0	800.0	799.6	799.6	4.0	3.2	89.62	0.4	60.0	60.0	53.0	7.04	8.521	
900.0	900.0	899.6	899.6	4.2	3.2	89.62	0.4	60.0	60.0	52.7	7.30	8.220	
1,000.0	1,000.0	999.6	999.6	4.5	3.2	89.62	0.4	60.0	60.0	52.4	7.57	7.922	
1,100.0	1,100.0	1,099.6	1,099.6	4.8	3.3	89.62	0.4	60.0	60.0	52.1	7.86	7.631	
1,200.0	1,200.0	1,199.6	1,199.6	5.1	3.4	89.62	0.4	60.0	60.0	51.8	8.16	7.349	
1,300.0	1,300.0	1,299.6	1,299.6	5.4	3.4	89.62	0.4	60.0	60.0	51.5	8.48	7.079	
1,400.0	1,400.0	1,399.6	1,399.6	5.7	3.5	89.62	0.4	60.0	60.0	51.2	8.80	6.821	
1,500.0	1,500.0	1,499.6	1,499.6	6.0	3.5	89.62	0.4	60.0	60.0	50.9	9.12	6.576	
1,600.0	1,600.0	1,599.6	1,599.6	6.3	3.6	89.62	0.4	60.0	60.0	50.5	9.46	6.343	
1,700.0	1,700.0	1,699.6	1,699.6	6.6	3.7	89.62	0.4	60.0	60.0	50.2	9.80	6.122	
1,800.0	1,800.0	1,799.6	1,799.6	6.9	3.8	89.62	0.4	60.0	60.0	49.9	10.15	5.913	
1,900.0	1,900.0	1,899.6	1,899.6	7.2	3.9	89.62	0.4	60.0	60.0	49.5	10.50	5.715	
2,000.0	2,000.0	1,999.6	1,999.6	7.6	3.9	89.62	0.4	60.0	60.0	49.1	10.85	5.528	
2,100.0	2,100.0	2,099.6	2,099.6	7.9	4.0	89.62	0.4	60.0	60.0	48.8	11.21	5.350	
2,200.0	2,200.0	2,199.6	2,199.6	8.2	4.1	89.62	0.4	60.0	60.0	48.4	11.58	5.183	
2,300.0	2,300.0	2,299.6	2,299.6	8.6	4.2	89.62	0.4	60.0	60.0	48.1	11.94	5.024	
2,400.0	2,400.0	2,399.6	2,399.6	8.9	4.3	89.62	0.4	60.0	60.0	47.7	12.31	4.873	
2,500.0	2,500.0	2,499.6	2,499.6	9.2	4.4	89.62	0.4	60.0	60.0	47.3	12.69	4.730 CC, ES, SF	
2,600.0	2,600.0	2,597.5	2,597.5	9.6	4.5	119.69	0.8	61.6	62.5	49.5	13.05	4.789	
2,700.0	2,699.8	2,695.0	2,694.8	9.9	4.5	122.28	1.8	66.5	70.2	56.7	13.41	5.231	
2,800.0	2,799.6	2,791.8	2,791.3	10.3	4.6	124.74	3.6	74.5	82.1	68.4	13.76	5.968	
2,900.0	2,899.4	2,890.5	2,889.4	10.6	4.6	126.20	5.8	84.6	96.1	81.9	14.13	6.798	
3,000.0	2,999.1	2,989.5	2,987.9	10.9	4.7	127.29	8.0	94.8	110.1	95.6	14.51	7.588	
3,100.0	3,098.9	3,088.5	3,086.3	11.3	4.7	128.13	10.2	104.9	124.2	109.3	14.89	8.337	
3,200.0	3,198.6	3,187.5	3,184.8	11.6	4.8	128.81	12.4	115.1	138.2	123.0	15.27	9.049	
3,300.0	3,298.4	3,286.5	3,283.2	12.0	4.8	129.35	14.6	125.3	152.3	136.7	15.66	9.725	
3,400.0	3,398.1	3,385.5	3,381.7	12.3	4.9	129.81	16.8	135.4	166.4	150.4	16.05	10.367	
3,500.0	3,497.9	3,484.5	3,480.1	12.7	5.0	130.19	19.0	145.6	180.5	164.1	16.45	10.977	
3,600.0	3,597.6	3,583.5	3,578.6	13.0	5.0	130.52	21.3	155.7	194.6	177.8	16.84	11.556	
3,700.0	3,697.4	3,682.4	3,677.0	13.4	5.1	130.81	23.5	165.9	208.8	191.5	17.24	12.107	
3,800.0	3,797.2	3,781.4	3,775.5	13.7	5.2	131.06	25.7	176.1	222.9	205.2	17.65	12.631	
3,900.0	3,896.9	3,880.4	3,873.9	14.1	5.3	131.27	27.9	186.2	237.0	219.0	18.05	13.129	
4,000.0	3,996.7	3,979.4	3,972.3	14.4	5.3	131.47	30.1	196.4	251.1	232.7	18.46	13.604	
4,100.0	4,096.4	4,078.4	4,070.8	14.8	5.4	131.64	32.3	206.5	265.3	246.4	18.87	14.055	
4,200.0	4,196.2	4,177.4	4,169.2	15.1	5.5	131.80	34.5	216.7	279.4	260.1	19.29	14.486	
4,300.0	4,295.9	4,276.4	4,267.7	15.5	5.6	131.94	36.8	226.9	293.5	273.8	19.71	14.896	
4,400.0	4,395.7	4,375.4	4,366.1	15.8	5.7	132.07	39.0	237.0	307.7	287.6	20.13	15.287	
4,500.0	4,495.5	4,474.4	4,464.6	16.2	5.8	132.18	41.2	247.2	321.8	301.3	20.55	15.661	
4,600.0	4,595.2	4,573.4	4,563.0	16.5	5.9	132.29	43.4	257.3	336.0	315.0	20.97	16.018	
4,700.0	4,695.0	4,672.4	4,661.5	16.9	6.0	132.39	45.6	267.5	350.1	328.7	21.40	16.359	
4,800.0	4,794.7	4,771.4	4,759.9	17.2	6.0	132.48	47.8	277.7	364.3	342.4	21.83	16.685	
4,900.0	4,894.5	4,870.4	4,858.4	17.6	6.1	132.56	50.0	287.8	378.4	356.1	22.26	16.997	
5,000.0	4,994.2	4,969.4	4,956.8	17.9	6.2	132.64	52.2	298.0	392.5	369.8	22.70	17.295	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #704H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11595-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,100.0	5,094.0	5,068.3	5,055.3	18.3	6.3	132.71	54.5	308.1	406.7	383.6	23.13	17.581	
5,200.0	5,193.7	5,167.3	5,153.7	18.7	6.4	132.78	56.7	318.3	420.8	397.3	23.57	17.855	
5,300.0	5,293.5	5,266.3	5,252.1	19.0	6.5	132.84	58.9	328.5	435.0	411.0	24.01	18.118	
5,400.0	5,393.3	5,365.3	5,350.6	19.4	6.6	132.90	61.1	338.6	449.1	424.7	24.45	18.370	
5,500.0	5,493.0	5,464.3	5,449.0	19.7	6.7	132.96	63.3	348.8	463.3	438.4	24.89	18.612	
5,600.0	5,592.8	5,563.3	5,547.5	20.1	6.8	133.01	65.5	358.9	477.4	452.1	25.34	18.844	
5,700.0	5,692.5	5,662.3	5,645.9	20.4	6.9	133.06	67.7	369.1	491.6	465.8	25.78	19.067	
5,800.0	5,792.3	5,761.3	5,744.4	20.8	7.1	133.10	70.0	379.3	505.7	479.5	26.23	19.282	
5,900.0	5,892.0	5,860.3	5,842.8	21.1	7.2	133.15	72.2	389.4	519.9	493.2	26.68	19.488	
6,000.0	5,991.8	5,959.3	5,941.3	21.5	7.3	133.19	74.4	399.6	534.0	506.9	27.13	19.687	
6,089.7	6,081.3	6,048.1	6,029.6	21.8	7.4	133.23	76.4	408.7	546.7	519.2	27.53	19.859	
6,100.0	6,091.6	6,058.3	6,039.7	21.9	7.4	133.24	76.6	409.8	548.2	520.6	27.58	19.878	
6,200.0	6,191.4	6,157.4	6,138.2	22.2	7.5	133.30	78.8	419.9	561.6	533.6	28.03	20.036	
6,300.0	6,291.3	6,256.6	6,236.9	22.6	7.6	133.22	81.0	430.1	573.9	545.4	28.49	20.143	
6,400.0	6,391.3	6,355.9	6,335.7	22.9	7.7	133.01	83.3	440.3	584.9	556.0	28.95	20.204	
6,489.7	6,481.0	6,445.1	6,424.4	23.2	7.8	103.67	85.2	449.5	593.9	564.5	29.37	20.220	
6,500.0	6,491.3	6,455.4	6,434.6	23.3	7.8	103.63	85.5	450.5	594.8	565.4	29.42	20.220	
6,600.0	6,591.3	6,554.8	6,533.5	23.6	7.9	103.19	87.7	460.7	604.3	574.4	29.89	20.219	
6,700.0	6,691.3	6,654.3	6,632.4	24.0	8.0	102.77	89.9	470.9	613.8	583.5	30.36	20.219	
6,800.0	6,791.3	6,753.7	6,731.3	24.3	8.1	102.36	92.1	481.1	623.4	592.5	30.83	20.219	
6,900.0	6,891.3	6,853.2	6,830.2	24.7	8.3	101.97	94.4	491.3	632.9	601.6	31.30	20.219	
7,000.0	6,991.3	6,952.6	6,929.1	25.1	8.4	101.58	96.6	501.5	642.5	610.8	31.78	20.219	
7,100.0	7,091.3	7,052.0	7,028.0	25.4	8.5	101.21	98.8	511.7	652.2	619.9	32.25	20.220	
7,200.0	7,191.3	7,151.5	7,126.9	25.8	8.6	100.85	101.0	522.0	661.8	629.1	32.73	20.221	
7,300.0	7,291.3	7,250.9	7,225.8	26.1	8.7	100.49	103.3	532.2	671.5	638.3	33.20	20.223	
7,400.0	7,391.3	7,350.4	7,324.7	26.5	8.8	100.15	105.5	542.4	681.2	647.5	33.68	20.225	
7,500.0	7,491.3	7,449.8	7,423.6	26.8	9.0	99.82	107.7	552.6	690.9	656.8	34.16	20.227	
7,600.0	7,591.3	7,549.3	7,522.5	27.2	9.1	99.50	109.9	562.8	700.7	666.0	34.64	20.229	
7,700.0	7,691.3	7,648.7	7,621.4	27.5	9.2	99.18	112.2	573.0	710.5	675.3	35.12	20.232	
7,800.0	7,791.3	7,748.2	7,720.3	27.9	9.3	98.88	114.4	583.2	720.3	684.7	35.60	20.235	
7,900.0	7,891.3	7,847.6	7,819.1	28.2	9.4	98.58	116.6	593.4	730.1	694.0	36.07	20.238	
8,000.0	7,991.3	7,947.1	7,918.0	28.6	9.5	98.29	118.8	603.6	739.9	703.3	36.55	20.241	
8,100.0	8,091.3	8,046.5	8,016.9	29.0	9.7	98.01	121.1	613.8	749.7	712.7	37.04	20.244	
8,200.0	8,191.3	8,146.0	8,115.8	29.3	9.8	97.73	123.3	624.0	759.6	722.1	37.52	20.248	
8,300.0	8,291.3	8,245.4	8,214.7	29.7	9.9	97.47	125.5	634.2	769.5	731.5	38.00	20.251	
8,400.0	8,391.3	8,344.9	8,313.6	30.0	10.0	97.21	127.7	644.4	779.4	740.9	38.48	20.255	
8,500.0	8,491.3	8,444.3	8,412.5	30.4	10.1	96.95	130.0	654.6	789.3	750.4	38.96	20.259	
8,600.0	8,591.3	8,543.7	8,511.4	30.7	10.3	96.70	132.2	664.9	799.2	759.8	39.44	20.264	
8,700.0	8,691.3	8,643.2	8,610.3	31.1	10.4	96.46	134.4	675.1	809.2	769.3	39.92	20.268	
8,800.0	8,791.3	8,742.6	8,709.2	31.4	10.5	96.22	136.6	685.3	819.1	778.7	40.41	20.272	
8,900.0	8,891.3	8,842.1	8,808.1	31.8	10.6	95.99	138.8	695.5	829.1	788.2	40.89	20.277	
9,000.0	8,991.3	8,941.5	8,907.0	32.2	10.8	95.77	141.1	705.7	839.1	797.7	41.37	20.282	
9,100.0	9,091.3	9,041.0	9,005.9	32.5	10.9	95.55	143.3	715.9	849.1	807.2	41.86	20.286	
9,200.0	9,191.3	9,140.4	9,104.8	32.9	11.0	95.34	145.5	726.1	859.1	816.8	42.34	20.291	
9,300.0	9,291.3	9,239.9	9,203.7	33.2	11.1	95.13	147.7	736.3	869.1	826.3	42.82	20.296	
9,400.0	9,391.3	9,339.3	9,302.6	33.6	11.2	94.92	150.0	746.5	879.2	835.9	43.31	20.301	
9,500.0	9,491.3	9,438.8	9,401.5	33.9	11.4	94.72	152.2	756.7	889.2	845.4	43.79	20.306	
9,600.0	9,591.3	9,538.2	9,500.4	34.3	11.5	94.52	154.4	766.9	899.3	855.0	44.27	20.311	
9,700.0	9,691.3	9,637.7	9,599.3	34.6	11.6	94.33	156.6	777.1	909.3	864.6	44.76	20.316	
9,800.0	9,791.3	9,737.1	9,698.2	35.0	11.7	94.15	158.9	787.3	919.4	874.2	45.24	20.321	
9,900.0	9,891.3	9,836.6	9,797.1	35.4	11.9	93.96	161.1	797.5	929.5	883.8	45.73	20.327	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #704H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11595-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
10,000.0	9,991.3	9,936.0	9,896.0	35.7	12.0	93.78	163.3	807.7	939.6	893.4	46.21	20.332	
10,100.0	10,091.3	10,035.5	9,994.9	36.1	12.1	93.61	165.5	818.0	949.7	903.0	46.70	20.337	
10,200.0	10,191.3	10,134.9	10,093.8	36.4	12.3	93.44	167.8	828.2	959.8	912.6	47.18	20.342	
10,300.0	10,291.3	10,234.3	10,192.7	36.8	12.4	93.27	170.0	838.4	969.9	922.3	47.67	20.348	
10,400.0	10,391.3	10,333.8	10,291.6	37.1	12.5	93.10	172.2	848.6	980.0	931.9	48.15	20.353	
10,500.0	10,491.3	10,433.2	10,390.5	37.5	12.6	92.94	174.4	858.8	990.2	941.5	48.64	20.358	
10,600.0	10,591.3	10,532.7	10,489.4	37.9	12.8	92.78	176.7	869.0	1,000.3	951.2	49.12	20.364	
10,700.0	10,691.3	10,632.1	10,588.3	38.2	12.9	92.63	178.9	879.2	1,010.5	960.9	49.61	20.369	
10,800.0	10,791.3	10,731.6	10,687.1	38.6	13.0	92.48	181.1	889.4	1,020.6	970.5	50.09	20.375	
10,900.0	10,891.3	10,831.0	10,786.0	38.9	13.1	92.33	183.3	899.6	1,030.8	980.2	50.58	20.380	
11,000.0	10,991.3	10,930.5	10,884.9	39.3	13.3	92.18	185.5	909.8	1,041.0	989.9	51.06	20.385	
11,100.0	11,091.3	11,029.9	10,983.8	39.6	13.4	92.04	187.8	920.0	1,051.1	999.6	51.55	20.391	
11,200.0	11,191.3	11,129.4	11,082.7	40.0	13.5	91.90	190.0	930.2	1,061.3	1,009.3	52.04	20.396	
11,300.0	11,291.3	11,228.8	11,181.6	40.3	13.7	91.76	192.2	940.4	1,071.5	1,019.0	52.52	20.401	
11,400.0	11,391.3	11,328.3	11,280.5	40.7	13.8	91.63	194.4	950.6	1,081.7	1,028.7	53.01	20.407	
11,500.0	11,491.3	11,427.7	11,379.4	41.1	13.9	91.49	196.7	960.8	1,091.9	1,038.4	53.49	20.412	
11,535.2	11,526.5	11,462.8	11,414.3	41.2	14.0	91.45	197.4	964.4	1,095.5	1,041.9	53.67	20.414	
11,550.0	11,541.3	11,477.4	11,428.9	41.2	14.0	-107.85	197.8	966.0	1,097.1	1,043.4	53.73	20.417	
11,575.0	11,566.2	11,502.2	11,453.5	41.3	14.0	-107.61	198.3	968.5	1,100.1	1,046.2	53.85	20.429	
11,600.0	11,591.1	11,526.7	11,477.9	41.4	14.1	-107.38	198.9	971.0	1,103.5	1,049.5	53.97	20.447	
11,625.0	11,615.7	11,551.0	11,502.1	41.5	14.1	-107.17	199.4	973.5	1,107.3	1,053.2	54.09	20.472	
11,650.0	11,640.2	11,575.0	11,525.9	41.6	14.1	-106.97	200.0	976.0	1,111.4	1,057.2	54.20	20.505	
11,675.0	11,664.3	11,596.5	11,547.3	41.6	14.2	-106.74	200.4	978.2	1,116.1	1,061.7	54.32	20.548	
11,700.0	11,688.0	11,606.9	11,557.6	41.7	14.2	-106.30	200.5	979.3	1,121.3	1,066.9	54.37	20.623	
11,725.0	11,711.3	11,617.2	11,567.8	41.8	14.2	-105.79	200.5	980.6	1,127.1	1,072.7	54.42	20.711	
11,750.0	11,734.1	11,625.0	11,575.6	41.8	14.2	-105.15	200.3	981.6	1,133.7	1,079.2	54.47	20.812	
11,775.0	11,756.3	11,637.2	11,587.7	41.9	14.2	-104.54	199.7	983.3	1,140.8	1,086.3	54.53	20.920	
11,800.0	11,777.9	11,650.0	11,600.3	42.0	14.2	-103.88	198.9	985.3	1,148.7	1,094.1	54.60	21.037	
11,825.0	11,798.8	11,650.0	11,600.3	42.0	14.2	-102.84	198.9	985.3	1,157.1	1,102.5	54.64	21.178	
11,850.0	11,818.9	11,665.8	11,615.8	42.1	14.2	-102.12	197.5	988.0	1,166.0	1,111.3	54.71	21.312	
11,875.0	11,838.3	11,675.0	11,624.7	42.1	14.2	-101.16	196.5	989.7	1,175.6	1,120.8	54.77	21.463	
11,900.0	11,856.8	11,683.7	11,633.2	42.2	14.2	-100.12	195.4	991.4	1,185.7	1,130.9	54.84	21.623	
11,925.0	11,874.4	11,692.3	11,641.5	42.2	14.2	-99.01	194.1	993.1	1,196.3	1,141.4	54.90	21.792	
11,950.0	11,891.0	11,700.0	11,649.0	42.3	14.2	-97.79	192.9	994.8	1,207.4	1,152.4	54.96	21.970	
11,975.0	11,906.7	11,708.5	11,657.2	42.3	14.2	-96.54	191.4	996.6	1,218.9	1,163.9	55.02	22.155	
12,000.0	11,921.3	11,716.2	11,664.5	42.4	14.2	-95.20	190.0	998.4	1,230.9	1,175.8	55.08	22.348	
12,025.0	11,934.8	11,725.0	11,672.9	42.4	14.2	-93.83	188.3	1,000.4	1,243.2	1,188.1	55.14	22.547	
12,050.0	11,947.2	11,725.0	11,672.9	42.5	14.2	-92.06	188.3	1,000.4	1,256.0	1,200.8	55.18	22.760	
12,075.0	11,958.4	11,737.2	11,684.4	42.5	14.2	-90.72	185.6	1,003.4	1,269.0	1,213.8	55.25	22.968	
12,100.0	11,968.5	11,743.5	11,690.3	42.5	14.2	-89.09	184.1	1,005.0	1,282.4	1,227.1	55.31	23.187	
12,125.0	11,977.3	11,750.0	11,696.4	42.6	14.2	-87.43	182.5	1,006.7	1,296.0	1,240.6	55.36	23.410	
12,150.0	11,984.9	11,750.0	11,696.4	42.6	14.2	-85.43	182.5	1,006.7	1,309.9	1,254.5	55.40	23.643	
12,175.0	11,991.3	11,759.8	11,705.5	42.6	14.2	-83.85	180.0	1,009.4	1,323.9	1,268.5	55.46	23.871	
12,200.0	11,996.4	11,764.4	11,709.7	42.7	14.2	-82.00	178.7	1,010.7	1,338.2	1,282.7	55.51	24.107	
12,225.0	12,000.2	11,768.5	11,713.5	42.7	14.2	-80.12	177.6	1,011.8	1,352.6	1,297.0	55.56	24.345	
12,250.0	12,002.7	11,775.0	11,719.4	42.7	14.2	-78.34	175.7	1,013.7	1,367.1	1,311.4	55.61	24.584	
12,275.0	12,003.9	11,775.0	11,719.4	42.7	14.2	-76.25	175.7	1,013.7	1,381.6	1,326.0	55.65	24.828	
12,285.7	12,004.0	11,775.0	11,719.4	42.7	14.2	-75.35	175.7	1,013.7	1,387.9	1,332.2	55.66	24.934	
12,300.0	12,003.9	11,775.0	11,719.4	42.7	14.2	-75.45	175.7	1,013.7	1,396.2	1,340.5	55.68	25.074	
12,400.0	12,003.8	11,789.9	11,732.9	42.8	14.2	-76.84	171.2	1,018.1	1,453.9	1,398.1	55.86	26.029	
12,500.0	12,003.7	11,806.1	11,747.3	42.9	14.2	-78.16	165.8	1,023.1	1,510.5	1,454.5	56.02	26.964	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #704H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11595-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
12,600.0	12,003.6	11,825.0	11,763.9	43.0	14.2	-79.47	159.0	1,029.2	1,565.6	1,509.5	56.18	27.870	
12,700.0	12,003.5	11,856.6	11,790.7	43.1	14.2	-81.11	146.4	1,040.2	1,619.0	1,562.6	56.34	28.735	
12,780.8	12,003.4	11,887.7	11,815.9	43.1	14.2	-82.47	132.4	1,051.8	1,660.4	1,603.9	56.48	29.401	
12,800.0	12,003.4	11,896.4	11,822.8	43.2	14.3	-82.76	128.3	1,055.2	1,670.1	1,613.6	56.51	29.556	
12,900.0	12,003.3	11,950.0	11,862.7	43.3	14.3	-84.43	100.3	1,077.2	1,722.4	1,665.7	56.70	30.380	
13,000.0	12,003.2	12,022.0	11,909.7	43.4	14.4	-86.36	56.6	1,109.8	1,776.8	1,719.9	56.92	31.214	
13,100.0	12,003.1	12,118.4	11,959.0	43.6	14.5	-88.32	-11.0	1,157.5	1,832.1	1,774.8	57.23	32.012	
13,200.0	12,003.0	13,306.6	12,003.0	43.7	19.1	-90.01	-1,119.3	1,484.7	1,848.0	1,786.3	61.74	29.932	
13,300.0	12,002.9	13,406.6	12,002.9	43.9	19.6	-90.01	-1,219.3	1,485.3	1,848.0	1,785.5	62.49	29.573	
13,400.0	12,002.8	13,506.6	12,002.8	44.1	20.1	-90.01	-1,319.3	1,485.9	1,848.0	1,784.8	63.28	29.205	
13,500.0	12,002.7	13,606.6	12,002.7	44.3	20.7	-90.01	-1,419.3	1,486.5	1,848.0	1,783.9	64.10	28.829	
13,600.0	12,002.6	13,706.6	12,002.6	44.6	21.2	-90.01	-1,519.3	1,487.1	1,848.0	1,783.1	64.96	28.448	
13,700.0	12,002.5	13,806.6	12,002.5	44.8	21.8	-90.01	-1,619.3	1,487.8	1,848.0	1,782.2	65.85	28.064	
13,800.0	12,002.4	13,906.6	12,002.4	45.1	22.5	-90.01	-1,719.3	1,488.4	1,848.0	1,781.3	66.77	27.677	
13,900.0	12,002.3	14,006.6	12,002.3	45.4	23.1	-90.01	-1,819.3	1,489.0	1,848.0	1,780.3	67.72	27.289	
14,000.0	12,002.2	14,106.6	12,002.2	45.6	23.7	-90.01	-1,919.3	1,489.6	1,848.0	1,779.3	68.70	26.901	
14,100.0	12,002.1	14,206.6	12,002.1	46.0	24.4	-90.01	-2,019.3	1,490.2	1,848.0	1,778.3	69.70	26.513	
14,200.0	12,002.0	14,306.6	12,002.0	46.3	25.1	-90.01	-2,119.3	1,490.8	1,848.0	1,777.3	70.73	26.128	
14,300.0	12,001.9	14,406.6	12,001.9	46.6	25.8	-90.01	-2,219.3	1,491.4	1,848.0	1,776.3	71.78	25.746	
14,400.0	12,001.8	14,506.6	12,001.8	47.0	26.5	-90.01	-2,319.3	1,492.0	1,848.0	1,775.2	72.85	25.366	
14,500.0	12,001.7	14,606.6	12,001.7	47.3	27.2	-90.01	-2,419.3	1,492.7	1,848.0	1,774.1	73.95	24.991	
14,600.0	12,001.6	14,706.6	12,001.5	47.7	27.9	-90.01	-2,519.3	1,493.3	1,848.0	1,773.0	75.06	24.619	
14,700.0	12,001.4	14,806.6	12,001.4	48.1	28.6	-90.01	-2,619.3	1,493.9	1,848.0	1,771.8	76.20	24.253	
14,800.0	12,001.3	14,906.6	12,001.3	48.5	29.4	-90.01	-2,719.3	1,494.5	1,848.0	1,770.7	77.35	23.891	
14,900.0	12,001.2	15,006.6	12,001.2	48.9	30.1	-90.01	-2,819.3	1,495.1	1,848.0	1,769.5	78.52	23.534	
15,000.0	12,001.1	15,106.6	12,001.1	49.3	30.9	-90.01	-2,919.3	1,495.7	1,848.0	1,768.3	79.71	23.184	
15,100.0	12,001.0	15,206.6	12,001.0	49.8	31.6	-90.01	-3,019.3	1,496.3	1,848.0	1,767.1	80.92	22.838	
15,200.0	12,000.9	15,306.6	12,000.9	50.2	32.4	-90.01	-3,119.3	1,496.9	1,848.0	1,765.9	82.14	22.499	
15,300.0	12,000.8	15,406.6	12,000.8	50.7	33.1	-90.01	-3,219.3	1,497.5	1,848.0	1,764.6	83.37	22.165	
15,400.0	12,000.7	15,506.6	12,000.7	51.1	33.9	-90.01	-3,319.3	1,498.2	1,848.0	1,763.4	84.63	21.838	
15,500.0	12,000.6	15,606.6	12,000.6	51.6	34.7	-90.01	-3,419.3	1,498.8	1,848.0	1,762.1	85.89	21.516	
15,600.0	12,000.5	15,706.6	12,000.5	52.1	35.5	-90.01	-3,519.3	1,499.4	1,848.0	1,760.9	87.17	21.201	
15,700.0	12,000.4	15,806.6	12,000.4	52.6	36.2	-90.01	-3,619.3	1,500.0	1,848.0	1,759.6	88.46	20.891	
15,800.0	12,000.3	15,906.6	12,000.3	53.1	37.0	-90.01	-3,719.3	1,500.6	1,848.0	1,758.3	89.76	20.588	
15,900.0	12,000.2	16,006.6	12,000.2	53.6	37.8	-90.01	-3,819.3	1,501.2	1,848.0	1,756.9	91.08	20.291	
16,000.0	12,000.1	16,106.6	12,000.1	54.1	38.6	-90.01	-3,919.3	1,501.8	1,848.0	1,755.6	92.40	19.999	
16,100.0	12,000.0	16,206.6	12,000.0	54.7	39.4	-90.01	-4,019.3	1,502.4	1,848.0	1,754.3	93.74	19.714	
16,200.0	11,999.9	16,306.6	11,999.9	55.2	40.2	-90.01	-4,119.3	1,503.1	1,848.0	1,752.9	95.09	19.434	
16,300.0	11,999.8	16,406.6	11,999.8	55.8	41.0	-90.01	-4,219.3	1,503.7	1,848.0	1,751.6	96.45	19.160	
16,400.0	11,999.7	16,506.6	11,999.7	56.3	41.8	-90.01	-4,319.3	1,504.3	1,848.0	1,750.2	97.82	18.892	
16,500.0	11,999.6	16,606.6	11,999.6	56.9	42.6	-90.01	-4,419.3	1,504.9	1,848.0	1,748.8	99.20	18.630	
16,600.0	11,999.5	16,706.6	11,999.5	57.4	43.4	-90.01	-4,519.3	1,505.5	1,848.0	1,747.4	100.59	18.373	
16,700.0	11,999.4	16,806.6	11,999.4	58.0	44.2	-90.01	-4,619.3	1,506.1	1,848.0	1,746.0	101.98	18.121	
16,800.0	11,999.3	16,906.6	11,999.3	58.6	45.1	-90.01	-4,719.3	1,506.7	1,848.0	1,744.6	103.39	17.875	
16,900.0	11,999.2	17,006.6	11,999.2	59.2	45.9	-90.01	-4,819.3	1,507.3	1,848.0	1,743.2	104.80	17.633	
17,000.0	11,999.1	17,106.6	11,999.1	59.8	46.7	-90.01	-4,919.3	1,507.9	1,848.0	1,741.8	106.22	17.397	
17,100.0	11,999.0	17,206.6	11,999.0	60.4	47.5	-90.01	-5,019.3	1,508.6	1,848.0	1,740.4	107.65	17.166	
17,200.0	11,998.9	17,306.6	11,998.9	61.0	48.3	-90.01	-5,119.3	1,509.2	1,848.0	1,738.9	109.09	16.940	
17,300.0	11,998.7	17,406.6	11,998.7	61.6	49.1	-90.01	-5,219.3	1,509.8	1,848.0	1,737.5	110.53	16.719	
17,400.0	11,998.6	17,506.6	11,998.6	62.3	50.0	-90.01	-5,319.3	1,510.4	1,848.0	1,736.0	111.99	16.502	
17,500.0	11,998.5	17,606.6	11,998.5	62.9	50.8	-90.01	-5,419.3	1,511.0	1,848.0	1,734.6	113.44	16.290	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #704H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-Standard Keeper 104, 11595-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
17,600.0	11,998.4	17,706.6	11,998.4	63.5	51.6	-90.01	-5,519.3	1,511.6	1,848.0	1,733.1	114.91	16.082		
17,700.0	11,998.3	17,806.6	11,998.3	64.2	52.4	-90.01	-5,619.3	1,512.2	1,848.0	1,731.6	116.38	15.879		
17,800.0	11,998.2	17,906.6	11,998.2	64.8	53.3	-90.01	-5,719.3	1,512.8	1,848.0	1,730.1	117.86	15.680		
17,900.0	11,998.1	18,006.6	11,998.1	65.5	54.1	-90.01	-5,819.3	1,513.5	1,848.0	1,728.7	119.34	15.485		
18,000.0	11,998.0	18,106.6	11,998.0	66.1	54.9	-90.01	-5,919.3	1,514.1	1,848.0	1,727.2	120.83	15.294		
18,100.0	11,997.9	18,206.6	11,997.9	66.8	55.8	-90.01	-6,019.3	1,514.7	1,848.0	1,725.7	122.32	15.107		
18,200.0	11,997.8	18,306.6	11,997.8	67.4	56.6	-90.01	-6,119.2	1,515.3	1,848.0	1,724.2	123.82	14.924		
18,300.0	11,997.7	18,406.6	11,997.7	68.1	57.4	-90.01	-6,219.2	1,515.9	1,848.0	1,722.7	125.33	14.745		
18,400.0	11,997.6	18,506.6	11,997.6	68.8	58.3	-90.01	-6,319.2	1,516.5	1,848.0	1,721.2	126.84	14.570		
18,500.0	11,997.5	18,606.6	11,997.5	69.5	59.1	-90.01	-6,419.2	1,517.1	1,848.0	1,719.6	128.35	14.398		
18,600.0	11,997.4	18,706.6	11,997.4	70.1	59.9	-90.01	-6,519.2	1,517.7	1,848.0	1,718.1	129.87	14.229		
18,700.0	11,997.3	18,806.6	11,997.3	70.8	60.8	-90.01	-6,619.2	1,518.3	1,848.0	1,716.6	131.40	14.064		
18,800.0	11,997.2	18,906.6	11,997.2	71.5	61.6	-90.01	-6,719.2	1,519.0	1,848.0	1,715.1	132.93	13.902		
18,900.0	11,997.1	19,006.6	11,997.1	72.2	62.4	-90.01	-6,819.2	1,519.6	1,848.0	1,713.5	134.46	13.744		
19,000.0	11,997.0	19,106.6	11,997.0	72.9	63.3	-90.01	-6,919.2	1,520.2	1,848.0	1,712.0	136.00	13.588		
19,100.0	11,996.9	19,206.6	11,996.9	73.6	64.1	-90.01	-7,019.2	1,520.8	1,848.0	1,710.5	137.54	13.436		
19,200.0	11,996.8	19,306.6	11,996.8	74.3	65.0	-90.01	-7,119.2	1,521.4	1,848.0	1,708.9	139.08	13.287		
19,300.0	11,996.7	19,406.6	11,996.7	75.0	65.8	-90.01	-7,219.2	1,522.0	1,848.0	1,707.4	140.63	13.140		
19,400.0	11,996.6	19,506.6	11,996.6	75.7	66.6	-90.01	-7,319.2	1,522.6	1,848.0	1,705.8	142.19	12.997		
19,500.0	11,996.5	19,606.6	11,996.5	76.4	67.5	-90.01	-7,419.2	1,523.2	1,848.0	1,704.2	143.74	12.856		
19,600.0	11,996.4	19,706.6	11,996.4	77.2	68.3	-90.01	-7,519.2	1,523.9	1,848.0	1,702.7	145.30	12.718		
19,700.0	11,996.3	19,806.6	11,996.3	77.9	69.2	-90.01	-7,619.2	1,524.5	1,848.0	1,701.1	146.87	12.583		
19,800.0	11,996.2	19,906.6	11,996.2	78.6	70.0	-90.01	-7,719.2	1,525.1	1,848.0	1,699.6	148.43	12.450		
19,900.0	11,996.0	20,006.6	11,996.0	79.3	70.8	-90.01	-7,819.2	1,525.7	1,848.0	1,698.0	150.00	12.320		
20,000.0	11,995.9	20,106.6	11,995.9	80.1	71.7	-90.01	-7,919.2	1,526.3	1,848.0	1,696.4	151.58	12.192		
20,100.0	11,995.8	20,206.6	11,995.8	80.8	72.5	-90.01	-8,019.2	1,526.9	1,848.0	1,694.8	153.15	12.066		
20,200.0	11,995.7	20,306.6	11,995.7	81.5	73.4	-90.01	-8,119.2	1,527.5	1,848.0	1,693.3	154.73	11.943		
20,300.0	11,995.6	20,406.6	11,995.6	82.2	74.2	-90.01	-8,219.2	1,528.1	1,848.0	1,691.7	156.31	11.822		
20,400.0	11,995.5	20,506.6	11,995.5	83.0	75.1	-90.01	-8,319.2	1,528.7	1,848.0	1,690.1	157.90	11.704		
20,500.0	11,995.4	20,606.6	11,995.4	83.7	75.9	-90.01	-8,419.2	1,529.4	1,848.0	1,688.5	159.49	11.587		
20,600.0	11,995.3	20,706.6	11,995.3	84.5	76.8	-90.01	-8,519.2	1,530.0	1,848.0	1,686.9	161.08	11.473		
20,700.0	11,995.2	20,806.6	11,995.2	85.2	77.6	-90.01	-8,619.2	1,530.6	1,848.0	1,685.3	162.67	11.360		
20,800.0	11,995.1	20,906.6	11,995.1	86.0	78.5	-90.01	-8,719.2	1,531.2	1,848.0	1,683.7	164.26	11.250		
20,900.0	11,995.0	21,006.6	11,995.0	86.7	79.3	-90.01	-8,819.2	1,531.8	1,848.0	1,682.1	165.86	11.142		
21,000.0	11,994.9	21,106.6	11,994.9	87.5	80.1	-90.01	-8,919.2	1,532.4	1,848.0	1,680.5	167.46	11.035		
21,100.0	11,994.8	21,206.6	11,994.8	88.2	81.0	-90.01	-9,019.2	1,533.0	1,848.0	1,678.9	169.06	10.931		
21,200.0	11,994.7	21,306.6	11,994.7	89.0	81.8	-90.01	-9,119.2	1,533.6	1,848.0	1,677.3	170.67	10.828		
21,300.0	11,994.6	21,406.6	11,994.6	89.7	82.7	-90.01	-9,219.2	1,534.3	1,848.0	1,675.7	172.28	10.727		
21,400.0	11,994.5	21,506.6	11,994.5	90.5	83.5	-90.01	-9,319.2	1,534.9	1,848.0	1,674.1	173.88	10.628		
21,500.0	11,994.4	21,606.6	11,994.4	91.2	84.4	-90.01	-9,419.2	1,535.5	1,848.0	1,672.5	175.49	10.530		
21,600.0	11,994.3	21,706.6	11,994.3	92.0	85.2	-90.01	-9,519.2	1,536.1	1,848.0	1,670.9	177.11	10.434		
21,700.0	11,994.2	21,806.6	11,994.2	92.8	86.1	-90.01	-9,619.2	1,536.7	1,848.0	1,669.3	178.72	10.340		
21,800.0	11,994.1	21,906.6	11,994.1	93.5	86.9	-90.01	-9,719.2	1,537.3	1,848.0	1,667.6	180.34	10.247		
21,870.0	11,994.0	21,976.6	11,994.0	94.1	87.5	-90.01	-9,789.2	1,537.7	1,848.0	1,666.5	181.47	10.183		
21,870.5	11,994.0	21,977.1	11,994.0	94.1	87.5	-90.01	-9,789.7	1,537.7	1,848.0	1,666.5	181.48	10.183		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

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COMPASS 5000.15 Build 91E

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #705H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	3.0	3.0	89.62	0.2	30.0	30.0					
100.0	100.0	99.6	99.6	3.0	3.0	89.62	0.2	30.0	30.0	24.0	6.01	4.995		
200.0	200.0	199.6	199.6	3.0	3.0	89.62	0.2	30.0	30.0	23.9	6.08	4.935		
300.0	300.0	299.6	299.6	3.1	3.1	89.62	0.2	30.0	30.0	23.8	6.24	4.811		
400.0	400.0	399.6	399.6	3.2	3.2	89.62	0.2	30.0	30.0	23.5	6.47	4.638		
500.0	500.0	499.6	499.6	3.4	3.4	89.62	0.2	30.0	30.0	23.2	6.77	4.433		
600.0	600.0	599.6	599.6	3.6	3.6	89.62	0.2	30.0	30.0	22.9	7.13	4.209		
700.0	700.0	699.6	699.6	3.8	3.8	89.62	0.2	30.0	30.0	22.5	7.54	3.979		
800.0	800.0	799.6	799.6	4.0	4.0	89.62	0.2	30.0	30.0	22.0	7.99	3.753		
900.0	900.0	899.6	899.6	4.2	4.2	89.62	0.2	30.0	30.0	21.5	8.49	3.536		
1,000.0	1,000.0	999.6	999.6	4.5	4.5	89.62	0.2	30.0	30.0	21.0	9.01	3.331		
1,100.0	1,100.0	1,099.6	1,099.6	4.8	4.8	89.62	0.2	30.0	30.0	20.4	9.55	3.140		
1,200.0	1,200.0	1,199.6	1,199.6	5.1	5.1	89.62	0.2	30.0	30.0	19.9	10.12	2.964		
1,300.0	1,300.0	1,299.6	1,299.6	5.4	5.4	89.62	0.2	30.0	30.0	19.3	10.71	2.802		
1,400.0	1,400.0	1,399.6	1,399.6	5.7	5.7	89.62	0.2	30.0	30.0	18.7	11.31	2.653		
1,500.0	1,500.0	1,499.6	1,499.6	6.0	6.0	89.62	0.2	30.0	30.0	18.1	11.92	2.517		
1,600.0	1,600.0	1,599.6	1,599.6	6.3	6.3	89.62	0.2	30.0	30.0	17.5	12.55	2.391		
1,700.0	1,700.0	1,699.6	1,699.6	6.6	6.6	89.62	0.2	30.0	30.0	16.8	13.18	2.276		
1,800.0	1,800.0	1,799.6	1,799.6	6.9	6.9	89.62	0.2	30.0	30.0	16.2	13.82	2.170		
1,900.0	1,900.0	1,899.6	1,899.6	7.2	7.2	89.62	0.2	30.0	30.0	15.5	14.47	2.073		
2,000.0	2,000.0	1,999.6	1,999.6	7.6	7.6	89.62	0.2	30.0	30.0	14.9	15.13	1.983 Advise and Monitor		
2,100.0	2,100.0	2,099.6	2,099.6	7.9	7.9	89.62	0.2	30.0	30.0	14.2	15.79	1.900 Advise and Monitor		
2,200.0	2,200.0	2,199.6	2,199.6	8.2	8.2	89.62	0.2	30.0	30.0	13.5	16.45	1.823 Advise and Monitor		
2,300.0	2,300.0	2,299.6	2,299.6	8.6	8.6	89.62	0.2	30.0	30.0	12.9	17.12	1.752 Advise and Monitor		
2,400.0	2,400.0	2,399.6	2,399.6	8.9	8.9	89.62	0.2	30.0	30.0	12.2	17.80	1.686 Advise and Monitor		
2,500.0	2,500.0	2,499.6	2,499.6	9.2	9.2	89.62	0.2	30.0	30.0	11.5	18.47	1.624 Advise and Monitor, CC, ES, SF		
2,600.0	2,600.0	2,598.9	2,598.9	9.6	9.6	119.05	1.5	31.1	32.0	12.8	19.14	1.670 Advise and Monitor		
2,700.0	2,699.8	2,697.9	2,697.8	9.9	9.9	119.89	5.4	34.4	37.9	18.1	19.80	1.912 Advise and Monitor		
2,800.0	2,799.6	2,796.8	2,796.3	10.3	10.2	119.21	11.8	39.9	46.8	26.3	20.45	2.286		
2,900.0	2,899.4	2,896.4	2,895.4	10.6	10.6	117.94	19.1	46.1	56.4	35.2	21.13	2.668		
3,000.0	2,999.1	2,995.9	2,994.5	10.9	10.9	117.04	26.4	52.3	66.0	44.2	21.80	3.026		
3,100.0	3,098.9	3,095.4	3,093.5	11.3	11.3	116.36	33.7	58.4	75.6	53.1	22.48	3.363		
3,200.0	3,198.6	3,195.0	3,192.6	11.6	11.6	115.84	40.9	64.6	85.2	62.1	23.16	3.680		
3,300.0	3,298.4	3,294.5	3,291.7	12.0	11.9	115.43	48.2	70.8	94.9	71.0	23.85	3.978		
3,400.0	3,398.1	3,394.0	3,390.8	12.3	12.3	115.09	55.5	77.0	104.5	80.0	24.53	4.260		
3,500.0	3,497.9	3,493.6	3,489.8	12.7	12.6	114.81	62.7	83.1	114.2	88.9	25.22	4.527		
3,600.0	3,597.6	3,593.1	3,588.9	13.0	13.0	114.57	70.0	89.3	123.8	97.9	25.91	4.778		
3,700.0	3,697.4	3,692.6	3,688.0	13.4	13.3	114.37	77.3	95.5	133.5	106.9	26.60	5.017		
3,800.0	3,797.2	3,792.2	3,787.0	13.7	13.7	114.19	84.5	101.7	143.1	115.8	27.29	5.243		
3,900.0	3,896.9	3,891.7	3,886.1	14.1	14.0	114.04	91.8	107.9	152.8	124.8	27.99	5.458		
4,000.0	3,996.7	3,991.2	3,985.2	14.4	14.4	113.90	99.1	114.0	162.4	133.7	28.68	5.663		
4,100.0	4,096.4	4,090.8	4,084.3	14.8	14.7	113.78	106.3	120.2	172.1	142.7	29.38	5.857		
4,200.0	4,196.2	4,190.3	4,183.3	15.1	15.1	113.68	113.6	126.4	181.7	151.7	30.08	6.042		
4,300.0	4,295.9	4,289.8	4,282.4	15.5	15.4	113.58	120.9	132.6	191.4	160.6	30.78	6.219		
4,400.0	4,395.7	4,389.3	4,381.5	15.8	15.8	113.49	128.1	138.7	201.0	169.6	31.48	6.387		
4,500.0	4,495.5	4,488.9	4,480.6	16.2	16.1	113.41	135.4	144.9	210.7	178.5	32.18	6.548		
4,600.0	4,595.2	4,588.4	4,579.6	16.5	16.5	113.34	142.7	151.1	220.4	187.5	32.88	6.702		
4,700.0	4,695.0	4,687.9	4,678.7	16.9	16.8	113.27	150.0	157.3	230.0	196.4	33.58	6.850		
4,800.0	4,794.7	4,787.5	4,777.8	17.2	17.2	113.21	157.2	163.5	239.7	205.4	34.28	6.991		
4,900.0	4,894.5	4,887.0	4,876.9	17.6	17.5	113.16	164.5	169.6	249.3	214.3	34.99	7.127		
5,000.0	4,994.2	4,986.5	4,975.9	17.9	17.9	113.10	171.8	175.8	259.0	223.3	35.69	7.257		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #705H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
5,100.0	5,094.0	5,086.1	5,075.0	18.3	18.2	113.06	179.0	182.0	268.7	232.3	36.39	7.382		
5,200.0	5,193.7	5,185.6	5,174.1	18.7	18.6	113.01	186.3	188.2	278.3	241.2	37.10	7.502		
5,300.0	5,293.5	5,285.1	5,273.2	19.0	19.0	112.97	193.6	194.3	288.0	250.2	37.81	7.617		
5,400.0	5,393.3	5,384.7	5,372.2	19.4	19.3	112.93	200.8	200.5	297.6	259.1	38.51	7.728		
5,500.0	5,493.0	5,484.2	5,471.3	19.7	19.7	112.89	208.1	206.7	307.3	268.1	39.22	7.835		
5,600.0	5,592.8	5,583.7	5,570.4	20.1	20.0	112.86	215.4	212.9	316.9	277.0	39.93	7.938		
5,700.0	5,692.5	5,683.3	5,669.5	20.4	20.4	112.83	222.6	219.1	326.6	286.0	40.63	8.038		
5,800.0	5,792.3	5,782.8	5,768.5	20.8	20.7	112.80	229.9	225.2	336.3	294.9	41.34	8.134		
5,900.0	5,892.0	5,882.3	5,867.6	21.1	21.1	112.77	237.2	231.4	345.9	303.9	42.05	8.226		
6,000.0	5,991.8	5,981.9	5,966.7	21.5	21.4	112.74	244.4	237.6	355.6	312.8	42.76	8.316		
6,089.7	6,081.3	6,071.2	6,055.6	21.8	21.8	112.72	251.0	243.1	364.3	320.9	43.40	8.394		
6,100.0	6,091.6	6,081.4	6,065.8	21.9	21.8	112.72	251.7	243.8	365.2	321.8	43.47	8.402		
6,200.0	6,191.4	6,181.0	6,164.9	22.2	22.2	112.63	259.0	250.0	374.5	330.3	44.18	8.477		
6,300.0	6,291.3	6,280.6	6,264.0	22.6	22.5	112.31	266.3	256.1	383.1	338.2	44.89	8.535		
6,400.0	6,391.3	6,380.1	6,363.1	22.9	22.9	111.75	273.5	262.3	391.1	345.5	45.60	8.577		
6,489.7	6,481.0	6,469.5	6,452.0	23.2	23.2	82.02	280.1	267.9	397.7	351.5	46.23	8.602		
6,500.0	6,491.3	6,479.7	6,462.2	23.3	23.2	81.93	280.8	268.5	398.5	352.2	46.31	8.605		
6,600.0	6,591.3	6,579.2	6,561.3	23.6	23.6	81.03	288.1	274.7	405.7	358.7	47.02	8.629		
6,700.0	6,691.3	6,678.8	6,660.4	24.0	23.9	80.17	295.3	280.9	413.0	365.3	47.73	8.654		
6,800.0	6,791.3	6,778.3	6,759.5	24.3	24.3	79.33	302.6	287.0	420.5	372.0	48.44	8.680		
6,900.0	6,891.3	6,877.9	6,858.5	24.7	24.7	78.53	309.9	293.2	428.0	378.8	49.15	8.708		
7,000.0	6,991.3	6,977.4	6,957.6	25.1	25.0	77.75	317.2	299.4	435.6	385.7	49.86	8.736		
7,100.0	7,091.3	7,076.9	7,056.7	25.4	25.4	77.00	324.4	305.6	443.2	392.6	50.57	8.764		
7,200.0	7,191.3	7,176.5	7,155.8	25.8	25.7	76.27	331.7	311.7	451.0	399.7	51.28	8.794		
7,300.0	7,291.3	7,276.0	7,254.9	26.1	26.1	75.57	339.0	317.9	458.8	406.8	51.99	8.823		
7,400.0	7,391.3	7,375.6	7,354.0	26.5	26.5	74.89	346.2	324.1	466.6	413.9	52.71	8.853		
7,500.0	7,491.3	7,475.1	7,453.0	26.8	26.8	74.24	353.5	330.3	474.6	421.2	53.42	8.884		
7,600.0	7,591.3	7,574.6	7,552.1	27.2	27.2	73.61	360.8	336.5	482.6	428.4	54.13	8.915		
7,700.0	7,691.3	7,674.2	7,651.2	27.5	27.5	72.99	368.0	342.6	490.6	435.8	54.85	8.946		
7,800.0	7,791.3	7,773.7	7,750.3	27.9	27.9	72.40	375.3	348.8	498.7	443.2	55.56	8.977		
7,900.0	7,891.3	7,873.3	7,849.4	28.2	28.2	71.83	382.6	355.0	506.9	450.6	56.27	9.008		
8,000.0	7,991.3	7,972.8	7,948.4	28.6	28.6	71.27	389.8	361.2	515.1	458.1	56.99	9.039		
8,100.0	8,091.3	8,072.3	8,047.5	29.0	29.0	70.73	397.1	367.4	523.4	465.7	57.70	9.070		
8,200.0	8,191.3	8,171.9	8,146.6	29.3	29.3	70.21	404.4	373.5	531.7	473.3	58.42	9.101		
8,300.0	8,291.3	8,271.4	8,245.7	29.7	29.7	69.70	411.7	379.7	540.0	480.9	59.13	9.132		
8,400.0	8,391.3	8,371.0	8,344.8	30.0	30.0	69.21	418.9	385.9	548.4	488.6	59.85	9.163		
8,500.0	8,491.3	8,470.5	8,443.9	30.4	30.4	68.74	426.2	392.1	556.8	496.3	60.56	9.194		
8,600.0	8,591.3	8,570.0	8,542.9	30.7	30.8	68.28	433.5	398.2	565.3	504.0	61.28	9.225		
8,700.0	8,691.3	8,669.6	8,642.0	31.1	31.1	67.83	440.7	404.4	573.8	511.8	61.99	9.255		
8,800.0	8,791.3	8,769.1	8,741.1	31.4	31.5	67.40	448.0	410.6	582.3	519.6	62.71	9.286		
8,900.0	8,891.3	8,868.7	8,840.2	31.8	31.8	66.97	455.3	416.8	590.9	527.4	63.42	9.316		
9,000.0	8,991.3	8,968.2	8,939.3	32.2	32.2	66.56	462.5	423.0	599.5	535.3	64.14	9.346		
9,100.0	9,091.3	9,067.7	9,038.3	32.5	32.6	66.16	469.8	429.1	608.1	543.2	64.86	9.376		
9,200.0	9,191.3	9,167.3	9,137.4	32.9	32.9	65.78	477.1	435.3	616.7	551.2	65.57	9.405		
9,300.0	9,291.3	9,266.8	9,236.5	33.2	33.3	65.40	484.4	441.5	625.4	559.1	66.29	9.435		
9,400.0	9,391.3	9,366.3	9,335.6	33.6	33.6	65.03	491.6	447.7	634.1	567.1	67.01	9.464		
9,500.0	9,491.3	9,465.9	9,434.7	33.9	34.0	64.68	498.9	453.9	642.8	575.1	67.72	9.492		
9,600.0	9,591.3	9,565.4	9,533.7	34.3	34.4	64.33	506.2	460.0	651.6	583.2	68.44	9.521		
9,700.0	9,691.3	9,665.0	9,632.8	34.6	34.7	63.99	513.4	466.2	660.4	591.2	69.16	9.549		
9,800.0	9,791.3	9,764.5	9,731.9	35.0	35.1	63.67	520.7	472.4	669.2	599.3	69.87	9.577		
9,900.0	9,891.3	9,864.0	9,831.0	35.4	35.4	63.35	528.0	478.6	678.0	607.4	70.59	9.605		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #705H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
10,000.0	9,991.3	9,963.6	9,930.1	35.7	35.8	63.03	535.2	484.7	686.8	615.5	71.31	9.632		
10,100.0	10,091.3	10,063.1	10,029.2	36.1	36.2	62.73	542.5	490.9	695.7	623.7	72.02	9.659		
10,200.0	10,191.3	10,162.7	10,128.2	36.4	36.5	62.43	549.8	497.1	704.6	631.8	72.74	9.686		
10,300.0	10,291.3	10,262.2	10,227.3	36.8	36.9	62.14	557.0	503.3	713.5	640.0	73.46	9.712		
10,400.0	10,391.3	10,361.7	10,326.4	37.1	37.3	61.86	564.3	509.5	722.4	648.2	74.18	9.739		
10,500.0	10,491.3	10,461.3	10,425.5	37.5	37.6	61.59	571.6	515.6	731.3	656.4	74.90	9.764		
10,600.0	10,591.3	10,560.8	10,524.6	37.9	38.0	61.32	578.9	521.8	740.3	664.6	75.61	9.790		
10,700.0	10,691.3	10,660.4	10,623.6	38.2	38.3	61.06	586.1	528.0	749.2	672.9	76.33	9.815		
10,800.0	10,791.3	10,762.8	10,725.6	38.6	38.7	60.79	593.6	534.3	758.2	681.1	77.07	9.837		
10,900.0	10,891.3	10,876.7	10,839.1	38.9	39.1	60.55	600.7	540.4	765.9	688.0	77.88	9.833		
11,000.0	10,991.3	10,990.9	10,953.1	39.3	39.5	60.37	606.1	545.0	771.7	693.0	78.68	9.808		
11,100.0	11,091.3	11,105.3	11,067.4	39.6	39.9	60.25	609.8	548.1	775.6	696.2	79.45	9.763		
11,200.0	11,191.3	11,219.9	11,182.0	40.0	40.3	60.18	611.7	549.7	777.7	697.5	80.20	9.697		
11,300.0	11,291.3	11,328.8	11,290.9	40.3	40.7	60.17	612.0	550.0	778.1	697.2	80.92	9.615		
11,400.0	11,391.3	11,428.8	11,390.9	40.7	41.1	60.17	612.0	550.0	778.1	696.4	81.63	9.532		
11,500.0	11,491.3	11,528.8	11,490.9	41.1	41.4	60.17	612.0	550.0	778.1	695.7	82.34	9.450		
11,535.2	11,526.5	11,564.0	11,526.1	41.2	41.6	60.17	612.0	550.0	778.1	695.5	82.59	9.421		
11,550.0	11,541.3	11,617.3	11,579.2	41.2	41.7	-139.14	608.9	550.0	777.7	695.0	82.66	9.409		
11,575.0	11,566.2	11,741.3	11,699.3	41.3	42.1	-137.70	579.5	550.2	775.4	693.2	82.14	9.440		
11,600.0	11,591.1	11,842.5	11,789.0	41.4	42.3	-135.41	533.2	550.5	771.5	690.1	81.33	9.486		
11,625.0	11,615.7	11,945.3	11,868.2	41.5	42.5	-132.04	468.0	550.9	766.5	686.2	80.33	9.543		
11,650.0	11,640.2	12,016.1	11,913.7	41.6	42.6	-129.29	413.9	551.2	761.1	681.2	79.91	9.525		
11,675.0	11,664.3	12,074.5	11,944.9	41.6	42.6	-126.78	364.5	551.5	755.7	675.9	79.81	9.468		
11,700.0	11,688.0	12,123.4	11,966.3	41.7	42.7	-124.55	320.5	551.8	750.6	670.6	79.97	9.385		
11,725.0	11,711.3	12,165.2	11,980.8	41.8	42.7	-122.56	281.4	552.0	746.0	665.7	80.30	9.290		
11,750.0	11,734.1	12,201.5	11,990.7	41.8	42.7	-120.75	246.4	552.2	742.1	661.4	80.74	9.192		
11,775.0	11,756.3	12,233.7	11,997.2	41.9	42.7	-119.08	214.9	552.4	739.0	657.8	81.23	9.098		
11,800.0	11,777.9	12,262.7	12,001.2	42.0	42.8	-117.50	186.2	552.6	736.8	655.0	81.74	9.014		
11,825.0	11,798.8	12,289.2	12,003.3	42.0	42.8	-115.96	159.8	552.8	735.4	653.2	82.25	8.942		
11,848.9	11,818.1	12,312.6	12,004.0	42.1	42.8	-114.52	136.3	552.9	735.0	652.3	82.71	8.887		
11,850.0	11,818.9	12,313.7	12,004.0	42.1	42.8	-114.45	135.3	552.9	735.0	652.3	82.73	8.885		
11,875.0	11,838.3	12,329.0	12,004.0	42.1	42.8	-113.43	120.0	553.0	735.6	652.4	83.16	8.845		
11,900.0	11,856.8	12,344.8	12,003.9	42.2	42.8	-112.29	104.2	553.1	737.2	653.7	83.55	8.824		
11,925.0	11,874.4	12,361.5	12,003.9	42.2	42.8	-111.04	87.5	553.2	739.8	655.9	83.88	8.820		
11,950.0	11,891.0	12,379.0	12,003.9	42.3	42.8	-109.67	69.9	553.3	743.3	659.2	84.16	8.832		
11,975.0	11,906.7	12,397.4	12,003.9	42.3	42.8	-108.22	51.6	553.4	747.6	663.2	84.40	8.858		
12,000.0	11,921.3	12,416.5	12,003.9	42.4	42.8	-106.70	32.5	553.6	752.7	668.1	84.60	8.897		
12,025.0	11,934.8	12,436.2	12,003.8	42.4	42.8	-105.12	12.8	553.7	758.4	673.7	84.77	8.947		
12,050.0	11,947.2	12,456.6	12,003.8	42.5	42.8	-103.51	-7.6	553.8	764.7	679.8	84.91	9.006		
12,075.0	11,958.4	12,477.6	12,003.8	42.5	42.8	-101.89	-28.6	553.9	771.5	686.5	85.02	9.074		
12,100.0	11,968.5	12,499.2	12,003.8	42.5	42.9	-100.28	-50.2	554.1	778.7	693.6	85.11	9.149		
12,125.0	11,977.3	12,521.1	12,003.8	42.6	42.9	-98.69	-72.1	554.2	786.3	701.1	85.19	9.230		
12,150.0	11,984.9	12,543.5	12,003.7	42.6	42.9	-97.14	-94.5	554.3	794.1	708.9	85.25	9.315		
12,175.0	11,991.3	12,566.3	12,003.7	42.6	42.9	-95.65	-117.3	554.5	802.2	716.9	85.30	9.404		
12,200.0	11,996.4	12,589.3	12,003.7	42.7	42.9	-94.23	-140.3	554.6	810.4	725.1	85.35	9.496		
12,225.0	12,000.2	12,612.5	12,003.7	42.7	42.9	-92.88	-163.5	554.8	818.8	733.4	85.38	9.589		
12,250.0	12,002.7	12,635.9	12,003.6	42.7	42.9	-91.62	-186.9	554.9	827.2	741.8	85.41	9.684		
12,275.0	12,003.9	12,659.4	12,003.6	42.7	43.0	-90.45	-210.4	555.0	835.6	750.2	85.44	9.780		
12,285.7	12,004.0	12,669.5	12,003.6	42.7	43.0	-89.98	-220.5	555.1	839.3	753.8	85.45	9.822		
12,300.0	12,003.9	12,683.0	12,003.6	42.7	43.0	-89.98	-234.0	555.2	844.0	758.6	85.46	9.876		
12,400.0	12,003.8	12,778.5	12,003.5	42.8	43.0	-89.99	-329.5	555.8	873.7	788.1	85.57	10.209		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #705H - OWB - PWP1													Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
12,500.0	12,003.7	12,875.8	12,003.4	42.9	43.1	-89.99	-426.8	556.4	896.5	810.8	85.72	10.459		
12,600.0	12,003.6	12,974.5	12,003.3	43.0	43.3	-90.00	-525.5	557.0	912.6	826.7	85.90	10.624		
12,700.0	12,003.5	13,074.0	12,003.2	43.1	43.4	-90.00	-625.0	557.6	921.7	835.6	86.11	10.704		
12,780.8	12,003.4	13,154.8	12,003.1	43.1	43.5	-90.00	-705.8	558.1	924.0	837.7	86.30	10.706		
12,800.0	12,003.4	13,174.0	12,003.1	43.2	43.5	-90.00	-725.0	558.2	924.0	837.6	86.35	10.700		
12,900.0	12,003.3	13,274.0	12,003.0	43.3	43.7	-90.01	-825.0	558.8	924.0	837.3	86.63	10.666		
13,000.0	12,003.2	13,374.0	12,002.9	43.4	43.8	-90.01	-925.0	559.4	924.0	837.0	86.94	10.627		
13,100.0	12,003.1	13,474.0	12,002.8	43.6	44.0	-90.01	-1,025.0	560.0	924.0	836.7	87.29	10.585		
13,200.0	12,003.0	13,574.0	12,002.7	43.7	44.2	-90.01	-1,125.0	560.6	924.0	836.3	87.66	10.540		
13,300.0	12,002.9	13,674.0	12,002.6	43.9	44.5	-90.01	-1,225.0	561.3	924.0	835.9	88.07	10.491		
13,400.0	12,002.8	13,774.0	12,002.5	44.1	44.7	-90.01	-1,325.0	561.9	924.0	835.5	88.51	10.439		
13,500.0	12,002.7	13,874.0	12,002.4	44.3	44.9	-90.01	-1,425.0	562.5	924.0	835.0	88.99	10.383		
13,600.0	12,002.6	13,974.0	12,002.3	44.6	45.2	-90.01	-1,525.0	563.1	924.0	834.5	89.49	10.325		
13,700.0	12,002.5	14,074.0	12,002.2	44.8	45.5	-90.01	-1,625.0	563.7	924.0	833.9	90.02	10.264		
13,800.0	12,002.4	14,174.0	12,002.1	45.1	45.8	-90.01	-1,725.0	564.3	924.0	833.4	90.58	10.200		
13,900.0	12,002.3	14,274.0	12,002.0	45.4	46.1	-90.01	-1,825.0	564.9	924.0	832.8	91.18	10.134		
14,000.0	12,002.2	14,374.0	12,001.9	45.6	46.4	-90.01	-1,925.0	565.6	924.0	832.2	91.80	10.065		
14,100.0	12,002.1	14,474.0	12,001.8	46.0	46.8	-90.01	-2,025.0	566.2	924.0	831.5	92.44	9.995		
14,200.0	12,002.0	14,574.0	12,001.7	46.3	47.1	-90.01	-2,125.0	566.8	924.0	830.9	93.12	9.922		
14,300.0	12,001.9	14,674.0	12,001.6	46.6	47.5	-90.01	-2,225.0	567.4	924.0	830.2	93.82	9.848		
14,400.0	12,001.8	14,774.0	12,001.5	47.0	47.8	-90.01	-2,325.0	568.0	924.0	829.4	94.55	9.772		
14,500.0	12,001.7	14,874.0	12,001.4	47.3	48.2	-90.01	-2,425.0	568.6	924.0	828.7	95.31	9.695		
14,600.0	12,001.6	14,974.0	12,001.3	47.7	48.6	-90.01	-2,525.0	569.2	924.0	827.9	96.09	9.616		
14,700.0	12,001.4	15,074.0	12,001.2	48.1	49.0	-90.01	-2,625.0	569.8	924.0	827.1	96.89	9.536		
14,800.0	12,001.3	15,174.0	12,001.1	48.5	49.5	-90.01	-2,725.0	570.5	924.0	826.3	97.72	9.456		
14,900.0	12,001.2	15,274.0	12,001.0	48.9	49.9	-90.01	-2,825.0	571.1	924.0	825.4	98.57	9.374		
15,000.0	12,001.1	15,374.0	12,000.9	49.3	50.4	-90.01	-2,925.0	571.7	924.0	824.5	99.44	9.292		
15,100.0	12,001.0	15,474.0	12,000.8	49.8	50.8	-90.01	-3,025.0	572.3	924.0	823.6	100.34	9.209		
15,200.0	12,000.9	15,574.0	12,000.7	50.2	51.3	-90.01	-3,124.9	572.9	924.0	822.7	101.25	9.125		
15,300.0	12,000.8	15,674.0	12,000.6	50.7	51.8	-90.01	-3,224.9	573.5	924.0	821.8	102.19	9.042		
15,400.0	12,000.7	15,774.0	12,000.5	51.1	52.2	-90.01	-3,324.9	574.1	924.0	820.8	103.15	8.958		
15,500.0	12,000.6	15,874.0	12,000.4	51.6	52.7	-90.01	-3,424.9	574.7	924.0	819.9	104.13	8.874		
15,600.0	12,000.5	15,974.0	12,000.3	52.1	53.2	-90.01	-3,524.9	575.4	924.0	818.9	105.12	8.790		
15,700.0	12,000.4	16,074.0	12,000.2	52.6	53.8	-90.01	-3,624.9	576.0	924.0	817.8	106.14	8.705		
15,800.0	12,000.3	16,174.0	12,000.1	53.1	54.3	-90.01	-3,724.9	576.6	924.0	816.8	107.17	8.622		
15,900.0	12,000.2	16,274.0	12,000.0	53.6	54.8	-90.01	-3,824.9	577.2	924.0	815.8	108.22	8.538		
16,000.0	12,000.1	16,374.0	11,999.9	54.1	55.4	-90.01	-3,924.9	577.8	924.0	814.7	109.29	8.454		
16,100.0	12,000.0	16,474.0	11,999.8	54.7	55.9	-90.01	-4,024.9	578.4	924.0	813.6	110.38	8.371		
16,200.0	11,999.9	16,574.0	11,999.7	55.2	56.5	-90.01	-4,124.9	579.0	924.0	812.5	111.48	8.289		
16,300.0	11,999.8	16,674.0	11,999.6	55.8	57.0	-90.01	-4,224.9	579.6	924.0	811.4	112.59	8.206		
16,400.0	11,999.7	16,774.0	11,999.5	56.3	57.6	-90.01	-4,324.9	580.3	924.0	810.3	113.72	8.125		
16,500.0	11,999.6	16,874.0	11,999.4	56.9	58.2	-90.01	-4,424.9	580.9	924.0	809.1	114.87	8.044		
16,600.0	11,999.5	16,974.0	11,999.3	57.4	58.8	-90.01	-4,524.9	581.5	924.0	808.0	116.03	7.963		
16,700.0	11,999.4	17,074.0	11,999.2	58.0	59.4	-90.01	-4,624.9	582.1	924.0	806.8	117.21	7.883		
16,800.0	11,999.3	17,174.0	11,999.1	58.6	60.0	-90.01	-4,724.9	582.7	924.0	805.6	118.39	7.804		
16,900.0	11,999.2	17,274.0	11,999.0	59.2	60.6	-90.01	-4,824.9	583.3	924.0	804.4	119.60	7.726		
17,000.0	11,999.1	17,374.0	11,998.9	59.8	61.2	-90.01	-4,924.9	583.9	924.0	803.2	120.81	7.648		
17,100.0	11,999.0	17,474.0	11,998.8	60.4	61.8	-90.01	-5,024.9	584.6	924.0	802.0	122.04	7.571		
17,200.0	11,998.9	17,574.0	11,998.7	61.0	62.4	-90.01	-5,124.9	585.2	924.0	800.7	123.27	7.495		
17,300.0	11,998.7	17,674.0	11,998.6	61.6	63.1	-90.01	-5,224.9	585.8	924.0	799.5	124.52	7.420		
17,400.0	11,998.6	17,774.0	11,998.5	62.3	63.7	-90.02	-5,324.9	586.4	924.0	798.2	125.78	7.346		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FED #705H - OWB - PWP1												Offset Site Error:	0.0 usft
Survey Program: 0-MWD+IFR1+FDIR												Offset Well Error:	3.0 usft
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Semi Major Axis Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
17,500.0	11,998.5	17,874.0	11,998.4	62.9	64.3	-90.02	-5,424.9	587.0	924.0	796.9	127.05	7.272	
17,600.0	11,998.4	17,974.0	11,998.3	63.5	65.0	-90.02	-5,524.9	587.6	924.0	795.7	128.34	7.200	
17,700.0	11,998.3	18,074.0	11,998.2	64.2	65.6	-90.02	-5,624.9	588.2	924.0	794.4	129.63	7.128	
17,800.0	11,998.2	18,174.0	11,998.1	64.8	66.3	-90.02	-5,724.9	588.8	924.0	793.1	130.93	7.057	
17,900.0	11,998.1	18,274.0	11,998.0	65.5	66.9	-90.02	-5,824.9	589.5	924.0	791.7	132.24	6.987	
18,000.0	11,998.0	18,374.0	11,997.9	66.1	67.6	-90.02	-5,924.9	590.1	924.0	790.4	133.57	6.918	
18,100.0	11,997.9	18,474.0	11,997.8	66.8	68.3	-90.02	-6,024.9	590.7	924.0	789.1	134.90	6.850	
18,200.0	11,997.8	18,574.0	11,997.7	67.4	68.9	-90.02	-6,124.9	591.3	924.0	787.8	136.23	6.782	
18,300.0	11,997.7	18,674.0	11,997.6	68.1	69.6	-90.02	-6,224.9	591.9	924.0	786.4	137.58	6.716	
18,400.0	11,997.6	18,774.0	11,997.5	68.8	70.3	-90.02	-6,324.9	592.5	924.0	785.1	138.94	6.650	
18,500.0	11,997.5	18,874.0	11,997.4	69.5	71.0	-90.02	-6,424.9	593.1	924.0	783.7	140.30	6.586	
18,600.0	11,997.4	18,974.0	11,997.3	70.1	71.7	-90.02	-6,524.9	593.7	924.0	782.3	141.67	6.522	
18,700.0	11,997.3	19,074.0	11,997.2	70.8	72.4	-90.02	-6,624.9	594.4	924.0	780.9	143.05	6.459	
18,800.0	11,997.2	19,174.0	11,997.1	71.5	73.1	-90.02	-6,724.9	595.0	924.0	779.6	144.44	6.397	
18,900.0	11,997.1	19,274.0	11,997.0	72.2	73.8	-90.02	-6,824.9	595.6	924.0	778.2	145.84	6.336	
19,000.0	11,997.0	19,374.0	11,996.9	72.9	74.5	-90.02	-6,924.9	596.2	924.0	776.8	147.24	6.276	
19,100.0	11,996.9	19,474.0	11,996.8	73.6	75.2	-90.02	-7,024.9	596.8	924.0	775.4	148.64	6.216	
19,200.0	11,996.8	19,574.0	11,996.7	74.3	75.9	-90.02	-7,124.9	597.4	924.0	773.9	150.06	6.158	
19,300.0	11,996.7	19,674.0	11,996.6	75.0	76.6	-90.02	-7,224.9	598.0	924.0	772.5	151.48	6.100	
19,400.0	11,996.6	19,774.0	11,996.5	75.7	77.3	-90.02	-7,324.9	598.7	924.0	771.1	152.91	6.043	
19,500.0	11,996.5	19,874.0	11,996.4	76.4	78.0	-90.02	-7,424.9	599.3	924.0	769.7	154.34	5.987	
19,600.0	11,996.4	19,974.0	11,996.3	77.2	78.8	-90.02	-7,524.9	599.9	924.0	768.2	155.78	5.931	
19,700.0	11,996.3	20,074.0	11,996.2	77.9	79.5	-90.02	-7,624.9	600.5	924.0	766.8	157.22	5.877	
19,800.0	11,996.2	20,174.0	11,996.1	78.6	80.2	-90.02	-7,724.9	601.1	924.0	765.3	158.68	5.823	
19,900.0	11,996.0	20,274.0	11,996.0	79.3	80.9	-90.02	-7,824.9	601.7	924.0	763.9	160.13	5.770	
20,000.0	11,995.9	20,374.0	11,995.9	80.1	81.7	-90.02	-7,924.9	602.3	924.0	762.4	161.59	5.718	
20,100.0	11,995.8	20,474.0	11,995.8	80.8	82.4	-90.02	-8,024.9	602.9	924.0	760.9	163.06	5.667	
20,200.0	11,995.7	20,574.0	11,995.7	81.5	83.1	-90.02	-8,124.9	603.6	924.0	759.5	164.53	5.616	
20,300.0	11,995.6	20,674.0	11,995.6	82.2	83.9	-90.02	-8,224.8	604.2	924.0	758.0	166.01	5.566	
20,400.0	11,995.5	20,774.0	11,995.5	83.0	84.6	-90.02	-8,324.8	604.8	924.0	756.5	167.49	5.517	
20,500.0	11,995.4	20,874.0	11,995.4	83.7	85.4	-90.02	-8,424.8	605.4	924.0	755.0	168.97	5.468	
20,600.0	11,995.3	20,974.0	11,995.3	84.5	86.1	-90.02	-8,524.8	606.0	924.0	753.5	170.46	5.421	
20,700.0	11,995.2	21,074.0	11,995.2	85.2	86.9	-90.02	-8,624.8	606.6	924.0	752.0	171.96	5.373	
20,800.0	11,995.1	21,174.0	11,995.1	86.0	87.6	-90.02	-8,724.8	607.2	924.0	750.5	173.46	5.327	
20,900.0	11,995.0	21,274.0	11,995.0	86.7	88.4	-90.02	-8,824.8	607.8	924.0	749.0	174.96	5.281	
21,000.0	11,994.9	21,374.0	11,994.9	87.5	89.1	-90.02	-8,924.8	608.5	924.0	747.5	176.46	5.236	
21,100.0	11,994.8	21,474.0	11,994.8	88.2	89.9	-90.02	-9,024.8	609.1	924.0	746.0	177.98	5.192	
21,200.0	11,994.7	21,574.0	11,994.7	89.0	90.6	-90.02	-9,124.8	609.7	924.0	744.5	179.49	5.148	
21,300.0	11,994.6	21,674.0	11,994.6	89.7	91.4	-90.02	-9,224.8	610.3	924.0	743.0	181.01	5.105	
21,400.0	11,994.5	21,774.0	11,994.5	90.5	92.2	-90.02	-9,324.8	610.9	924.0	741.5	182.53	5.062	
21,500.0	11,994.4	21,874.0	11,994.4	91.2	92.9	-90.02	-9,424.8	611.5	924.0	740.0	184.06	5.020	
21,600.0	11,994.3	21,974.0	11,994.3	92.0	93.7	-90.02	-9,524.8	612.1	924.0	738.4	185.58	4.979	
21,700.0	11,994.2	22,074.0	11,994.2	92.8	94.5	-90.02	-9,624.8	612.7	924.0	736.9	187.12	4.938	
21,800.0	11,994.1	22,174.0	11,994.1	93.5	95.2	-90.02	-9,724.8	613.4	924.0	735.4	188.65	4.898	
21,870.0	11,994.0	22,244.0	11,994.0	94.1	95.8	-90.02	-9,794.8	613.8	924.0	734.3	189.73	4.870	
21,870.5	11,994.0	22,244.5	11,994.0	94.1	95.8	-90.02	-9,795.3	613.8	924.0	734.3	189.74	4.870	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

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COMPASS 5000.15 Build 91E

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #1H - OWB - ACTUAL												Offset Site Error:	0.0 usft
Survey Program: 239-MWD, 761-MWD, 4644-MWD, 9817-MWD												Offset Well Error:	2.0 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
0.0	0.0	0.0	0.0	3.0	2.0	-27.81	518.0	-273.2	585.6				
100.0	100.0	95.4	95.4	3.0	2.1	-27.79	518.2	-273.1	585.8	580.8	5.01	116.940	
200.0	200.0	193.2	193.2	3.0	2.6	-27.73	519.0	-272.8	586.4	581.3	5.07	115.732	
300.0	300.0	296.1	296.1	3.1	2.9	-27.64	520.1	-272.3	587.1	581.9	5.21	112.656	
400.0	400.0	396.0	396.0	3.2	3.1	-27.55	520.7	-271.6	587.3	581.9	5.47	107.293	
500.0	500.0	495.7	495.7	3.4	3.5	-27.46	521.4	-271.0	587.7	581.7	5.92	99.276	
600.0	600.0	595.9	595.9	3.6	4.3	-27.37	522.1	-270.3	588.0	581.5	6.52	90.158	
700.0	700.0	696.0	696.0	3.8	5.1	-27.28	522.8	-269.6	588.3	581.1	7.17	82.057	
800.0	800.0	797.8	797.7	4.0	5.4	-27.18	523.4	-268.8	588.4	580.8	7.58	77.622	
827.7	827.7	825.4	825.3	4.1	5.4	-27.17	523.5	-268.7	588.4	580.7	7.65	76.874	
900.0	900.0	892.7	892.6	4.2	5.4	-27.13	523.9	-268.5	588.7	580.9	7.86	74.878	
1,000.0	1,000.0	994.2	994.2	4.5	5.5	-27.11	524.7	-268.6	589.5	581.3	8.21	71.832	
1,100.0	1,100.0	1,097.2	1,097.1	4.8	5.5	-27.18	524.6	-269.4	589.8	581.1	8.64	68.226	
1,200.0	1,200.0	1,204.5	1,204.4	5.1	5.7	-27.33	523.5	-270.5	589.3	580.2	9.09	64.852	
1,300.0	1,300.0	1,305.2	1,305.1	5.4	5.8	-27.36	522.2	-270.2	588.0	578.5	9.55	61.602	
1,400.0	1,400.0	1,400.2	1,400.2	5.7	5.9	-27.28	521.7	-269.1	587.0	577.0	10.08	58.233	
1,423.3	1,423.3	1,421.0	1,420.9	5.7	6.0	-27.25	521.8	-268.8	587.0	576.8	10.22	57.460	
1,500.0	1,500.0	1,490.4	1,490.3	6.0	6.2	-27.13	522.8	-267.9	587.5	576.9	10.64	55.229	
1,600.0	1,600.0	1,587.3	1,587.2	6.3	6.4	-27.05	524.5	-267.9	589.1	577.9	11.16	52.762	
1,700.0	1,700.0	1,687.2	1,687.1	6.6	6.6	-27.12	525.9	-269.3	590.9	579.2	11.74	50.333	
1,800.0	1,800.0	1,794.0	1,793.8	6.9	6.8	-27.30	526.2	-271.6	592.2	579.8	12.36	47.902	
1,900.0	1,900.0	1,901.3	1,901.1	7.2	7.0	-27.50	525.3	-273.4	592.2	579.2	12.97	45.641	
2,000.0	2,000.0	2,005.6	2,005.5	7.6	7.2	-27.58	523.9	-273.7	591.1	577.6	13.57	43.549	
2,100.0	2,100.0	2,106.3	2,106.1	7.9	7.5	-27.51	523.0	-272.3	589.7	575.5	14.22	41.476	
2,200.0	2,200.0	2,201.7	2,201.5	8.2	7.7	-27.31	522.9	-270.0	588.5	573.7	14.87	39.574	
2,252.9	2,252.9	2,250.7	2,250.5	8.4	7.8	-27.20	523.3	-269.0	588.3	573.1	15.20	38.698	
2,300.0	2,300.0	2,293.6	2,293.4	8.6	7.9	-27.11	523.8	-268.2	588.5	573.0	15.48	38.014	
2,400.0	2,400.0	2,388.1	2,387.8	8.9	8.2	-26.95	525.7	-267.3	589.8	573.7	16.08	36.681	
2,500.0	2,500.0	2,486.6	2,486.3	9.2	8.4	-26.91	527.5	-267.7	591.6	574.9	16.70	35.418	
2,600.0	2,600.0	2,590.5	2,590.2	9.6	8.7	2.12	528.8	-268.8	591.5	574.1	17.44	33.919	
2,700.0	2,699.8	2,695.1	2,694.7	9.9	9.1	2.02	529.1	-270.3	587.1	568.9	18.21	32.236	
2,800.0	2,799.6	2,801.8	2,801.5	10.3	9.4	1.87	528.1	-271.8	580.0	561.1	18.91	30.680	
2,900.0	2,899.4	2,908.2	2,907.9	10.6	9.7	1.72	526.0	-272.6	571.7	552.1	19.56	29.228	
3,000.0	2,999.1	3,010.3	3,009.9	10.9	10.0	1.75	524.1	-271.6	562.5	542.3	20.22	27.820	
3,100.0	3,098.9	3,108.1	3,107.7	11.3	10.3	1.88	522.6	-269.6	553.3	532.4	20.89	26.489	
3,200.0	3,198.6	3,203.3	3,202.8	11.6	10.6	2.07	521.9	-267.5	544.7	523.1	21.56	25.266	
3,300.0	3,298.4	3,298.2	3,297.8	12.0	10.9	2.29	522.1	-265.5	536.9	514.7	22.25	24.128	
3,400.0	3,398.1	3,395.0	3,394.5	12.3	11.2	2.56	523.0	-263.6	529.9	507.0	22.92	23.116	
3,500.0	3,497.9	3,500.5	3,499.9	12.7	11.6	2.88	524.4	-261.4	523.3	499.6	23.64	22.131	
3,600.0	3,597.6	3,599.1	3,598.5	13.0	12.0	3.26	524.5	-258.0	514.8	490.5	24.35	21.145	
3,700.0	3,697.4	3,687.1	3,686.5	13.4	12.5	3.44	525.4	-257.1	508.4	483.4	24.99	20.341	
3,800.0	3,797.2	3,782.4	3,781.8	13.7	12.9	3.45	527.4	-258.3	503.9	478.2	25.66	19.639	
3,900.0	3,896.9	3,886.9	3,886.3	14.1	13.3	3.34	528.9	-260.6	499.1	472.7	26.39	18.911	
4,000.0	3,996.7	3,996.9	3,996.2	14.4	13.6	3.19	528.9	-262.5	492.9	465.8	27.12	18.174	
4,100.0	4,096.4	4,104.7	4,104.0	14.8	14.0	3.03	526.9	-263.5	484.7	456.9	27.82	17.420	
4,200.0	4,196.2	4,209.3	4,208.6	15.1	14.3	3.02	524.2	-262.8	475.1	446.6	28.50	16.672	
4,300.0	4,295.9	4,306.4	4,305.7	15.5	14.6	3.13	521.9	-261.0	465.3	436.1	29.17	15.950	
4,400.0	4,395.7	4,403.3	4,402.4	15.8	14.9	3.29	520.2	-259.2	455.9	426.1	29.86	15.271	
4,500.0	4,495.5	4,494.9	4,494.1	16.2	15.2	3.54	520.1	-257.4	447.9	417.4	30.54	14.669	
4,600.0	4,595.2	4,593.6	4,592.8	16.5	15.4	3.85	520.8	-255.5	440.9	409.7	31.12	14.165	
4,700.0	4,695.0	4,691.1	4,690.2	16.9	15.5	4.12	521.6	-254.2	434.1	402.5	31.62	13.729	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #1H - OWB - ACTUAL												Offset Site Error:	0.0 usft
Survey Program: 239-MWD, 761-MWD, 4644-MWD, 9817-MWD												Offset Well Error:	2.0 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,800.0	4,794.7	4,788.7	4,787.9	17.2	15.6	4.35	522.9	-253.5	428.0	396.0	31.99	13.380	
4,900.0	4,894.5	4,885.7	4,884.8	17.6	15.6	4.56	524.5	-253.0	422.3	390.0	32.36	13.049	
5,000.0	4,994.2	4,984.6	4,983.7	17.9	15.7	4.73	526.6	-253.2	417.4	384.6	32.75	12.745	
5,100.0	5,094.0	5,085.4	5,084.4	18.3	15.7	4.96	528.7	-253.0	412.3	379.1	33.14	12.438	
5,200.0	5,193.7	5,186.6	5,185.6	18.7	15.8	5.23	530.7	-252.5	406.9	373.4	33.55	12.130	
5,300.0	5,293.5	5,287.7	5,286.7	19.0	15.8	5.52	532.4	-251.7	401.2	367.2	33.95	11.816	
5,400.0	5,393.3	5,388.7	5,387.7	19.4	15.9	5.81	533.8	-250.9	395.2	360.8	34.37	11.498	
5,500.0	5,493.0	5,485.7	5,484.7	19.7	16.0	6.05	535.2	-250.4	389.4	354.6	34.80	11.190	
5,600.0	5,592.8	5,587.0	5,586.0	20.1	16.1	6.26	536.7	-250.4	383.8	348.6	35.24	10.892	
5,700.0	5,692.5	5,685.5	5,684.5	20.4	16.2	6.51	538.3	-250.1	378.2	342.5	35.68	10.599	
5,800.0	5,792.3	5,785.1	5,784.1	20.8	16.3	6.81	540.1	-249.6	372.8	336.7	36.13	10.318	
5,900.0	5,892.0	5,885.8	5,884.8	21.1	16.4	7.10	541.9	-249.2	367.3	330.7	36.59	10.038	
6,000.0	5,991.8	5,986.9	5,985.8	21.5	16.5	7.40	543.3	-248.7	361.5	324.5	37.06	9.756	
6,089.7	6,081.3	6,077.1	6,076.0	21.8	16.6	7.62	544.3	-248.5	356.2	318.7	37.49	9.501	
6,100.0	6,091.6	6,087.5	6,086.5	21.9	16.7	7.64	544.4	-248.4	355.5	318.0	37.54	9.472	
6,200.0	6,191.4	6,188.4	6,187.3	22.2	16.8	7.80	545.0	-248.4	350.2	312.2	38.02	9.211	
6,300.0	6,291.3	6,288.9	6,287.8	22.6	16.9	7.83	545.3	-248.9	346.5	308.0	38.52	8.996	
6,400.0	6,391.3	6,390.7	6,389.6	22.9	17.0	7.87	545.3	-249.1	344.2	305.2	39.02	8.822	
6,489.7	6,481.0	6,480.4	6,479.3	23.2	17.2	-21.19	545.0	-249.0	343.2	303.7	39.46	8.697	
6,500.0	6,491.3	6,490.5	6,489.4	23.3	17.2	-21.19	545.0	-249.0	343.2	303.6	39.51	8.685	
6,600.0	6,591.3	6,591.6	6,590.5	23.6	17.3	-21.25	544.7	-249.3	343.0	303.0	40.01	8.573	
6,700.0	6,691.3	6,691.3	6,690.2	24.0	17.5	-21.42	543.8	-250.0	342.4	301.9	40.52	8.451	
6,800.0	6,791.3	6,790.4	6,789.3	24.3	17.6	-21.56	543.2	-250.8	342.2	301.2	41.03	8.340	
6,847.0	6,838.3	6,837.0	6,835.9	24.5	17.7	-21.58	543.2	-250.8	342.1	300.9	41.28	8.289	
6,900.0	6,891.3	6,889.3	6,888.2	24.7	17.8	-21.63	543.1	-251.1	342.2	300.6	41.55	8.235	
7,000.0	6,991.3	6,992.4	6,991.3	25.1	18.0	-21.76	542.7	-251.8	342.0	300.0	42.08	8.129	
7,100.0	7,091.3	7,091.3	7,090.2	25.4	18.2	-21.87	541.9	-252.2	341.4	298.8	42.61	8.014	
7,200.0	7,191.3	7,192.1	7,191.0	25.8	18.3	-21.97	541.2	-252.6	340.9	297.8	43.14	7.903	
7,300.0	7,291.3	7,293.9	7,292.8	26.1	18.5	-22.05	540.1	-252.6	340.0	296.3	43.68	7.785	
7,400.0	7,391.3	7,394.3	7,393.2	26.5	18.7	-22.22	538.7	-253.1	338.9	294.6	44.22	7.663	
7,500.0	7,491.3	7,496.9	7,495.8	26.8	18.9	-22.49	536.4	-253.9	337.1	292.3	44.77	7.530	
7,600.0	7,591.3	7,597.3	7,596.2	27.2	19.1	-22.76	533.8	-254.6	335.0	289.7	45.32	7.392	
7,700.0	7,691.3	7,698.1	7,696.8	27.5	19.3	-23.04	531.1	-255.2	332.7	286.8	45.88	7.252	
7,800.0	7,791.3	7,797.8	7,796.5	27.9	19.5	-23.34	528.2	-255.8	330.3	283.8	46.45	7.110	
7,900.0	7,891.3	7,896.8	7,895.5	28.2	19.8	-23.57	525.7	-256.2	328.1	281.1	47.02	6.978	
8,000.0	7,991.3	7,996.6	7,995.3	28.6	20.0	-23.83	523.3	-256.7	326.1	278.6	47.60	6.852	
8,100.0	8,091.3	8,096.7	8,095.3	29.0	20.2	-24.11	520.8	-257.4	324.2	276.0	48.17	6.729	
8,200.0	8,191.3	8,200.1	8,198.7	29.3	20.4	-24.41	517.9	-257.9	321.8	273.0	48.75	6.601	
8,300.0	8,291.3	8,301.1	8,299.7	29.7	20.7	-24.80	513.9	-258.5	318.4	269.1	49.34	6.455	
8,400.0	8,391.3	8,400.2	8,398.6	30.0	20.9	-25.18	510.1	-259.0	315.2	265.2	49.93	6.312	
8,500.0	8,491.3	8,497.4	8,495.8	30.4	21.1	-25.45	507.1	-259.2	312.5	261.9	50.53	6.184	
8,600.0	8,591.3	8,600.1	8,598.5	30.7	21.4	-25.63	504.3	-259.0	309.9	258.8	51.13	6.062	
8,700.0	8,691.3	8,698.4	8,696.7	31.1	21.6	-25.88	501.2	-259.0	307.1	255.4	51.73	5.937	
8,800.0	8,791.3	8,802.4	8,800.6	31.4	21.9	-26.13	497.5	-258.6	303.7	251.4	52.33	5.804	
8,900.0	8,891.3	8,898.4	8,896.6	31.8	22.1	-26.58	493.8	-259.5	300.6	247.7	52.95	5.677	
9,000.0	8,991.3	9,000.3	8,998.3	32.2	22.4	-27.00	490.1	-260.1	297.7	244.2	53.57	5.558	
9,100.0	9,091.3	9,100.6	9,098.6	32.5	22.7	-27.34	486.4	-260.2	294.4	240.2	54.18	5.434	
9,200.0	9,191.3	9,196.4	9,194.4	32.9	22.9	-27.82	482.7	-261.0	291.5	236.6	54.82	5.317	
9,250.5	9,241.8	9,241.4	9,239.4	33.0	23.1	-28.00	481.9	-261.6	291.0	235.8	55.15	5.276	
9,300.0	9,291.3	9,291.5	9,289.4	33.2	23.2	-28.17	481.7	-262.5	291.2	235.7	55.48	5.248	
9,400.0	9,391.3	9,396.2	9,394.1	33.6	23.6	-28.69	478.9	-263.9	289.4	233.3	56.16	5.154	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #1H - OWB - ACTUAL												Offset Site Error:	0.0 usft
Survey Program: 239-MWD, 761-MWD, 4644-MWD, 9817-MWD												Offset Well Error:	2.0 usft
Reference		Offset		Semi Major Axis			Distance						Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	
9,500.0	9,491.3	9,493.6	9,491.4	33.9	23.9	-29.40	476.1	-266.5	288.3	231.5	56.82	5.073	
9,600.0	9,591.3	9,597.2	9,594.9	34.3	24.2	-30.06	473.4	-268.8	287.1	229.6	57.46	4.997	
9,700.0	9,691.3	9,692.6	9,690.3	34.6	24.5	-30.36	471.0	-269.1	285.1	227.0	58.13	4.904	
9,800.0	9,791.3	9,797.5	9,795.1	35.0	24.8	-30.99	469.0	-271.6	284.7	225.9	58.83	4.840	
9,900.0	9,891.3	9,933.9	9,930.5	35.4	24.9	-33.14	453.9	-274.5	276.5	217.7	58.79	4.704	
10,000.0	9,991.3	10,066.8	10,058.6	35.7	24.9	-37.62	419.3	-274.8	255.0	196.8	58.27	4.377	
10,100.0	10,091.3	10,183.3	10,164.7	36.1	25.0	-46.06	371.6	-277.1	224.5	166.3	58.12	3.862	
10,200.0	10,191.3	10,299.5	10,258.3	36.4	25.1	-63.30	303.4	-280.9	187.9	129.3	58.57	3.207	
10,300.0	10,291.3	10,381.6	10,308.7	36.8	25.3	-84.99	238.9	-283.9	160.8	99.1	61.71	2.605	
10,328.4	10,319.7	10,398.4	10,317.3	36.9	25.4	-90.18	224.5	-284.0	159.0	96.8	62.19	2.556	CC, ES, SF
10,400.0	10,391.3	10,431.5	10,332.5	37.1	25.5	-100.65	195.2	-283.6	170.9	110.3	60.64	2.819	
10,500.0	10,491.3	10,469.0	10,347.7	37.5	25.6	-112.12	160.9	-282.8	221.2	166.0	55.20	4.007	
10,600.0	10,591.3	10,496.2	10,357.6	37.9	25.7	-119.66	135.5	-282.1	293.5	242.6	50.90	5.767	
10,700.0	10,691.3	10,520.3	10,365.7	38.2	25.8	-125.60	112.8	-281.7	376.3	327.8	48.47	7.763	
10,800.0	10,791.3	10,540.4	10,371.9	38.6	25.9	-129.99	93.8	-281.4	464.3	417.2	47.10	9.858	
10,900.0	10,891.3	10,563.0	10,378.3	38.9	26.0	-134.39	72.0	-281.2	555.4	509.0	46.45	11.957	
11,000.0	10,991.3	10,570.9	10,380.3	39.3	26.0	-135.80	64.4	-281.2	648.5	602.6	45.89	14.132	
11,100.0	11,091.3	10,582.9	10,383.3	39.6	26.1	-137.80	52.8	-281.2	742.9	697.2	45.68	16.265	
11,200.0	11,191.3	10,594.0	10,385.8	40.0	26.1	-139.52	42.0	-281.2	838.3	792.7	45.62	18.375	
11,300.0	11,291.3	10,594.0	10,385.8	40.3	26.1	-139.52	42.0	-281.2	934.6	889.0	45.55	20.517	
11,400.0	11,391.3	10,611.0	10,389.4	40.7	26.2	-141.94	25.4	-281.3	1,031.2	985.4	45.76	22.533	
11,500.0	11,491.3	10,626.0	10,392.2	41.1	26.3	-143.88	10.6	-281.5	1,128.4	1,082.4	46.00	24.532	
11,535.2	11,526.5	10,626.0	10,392.2	41.2	26.3	-143.88	10.6	-281.5	1,162.6	1,116.6	46.04	25.254	
11,550.0	11,541.3	10,626.0	10,392.2	41.2	26.3	14.75	10.6	-281.5	1,177.0	1,130.9	46.05	25.556	
11,575.0	11,566.2	10,626.0	10,392.2	41.3	26.3	12.30	10.6	-281.5	1,201.0	1,154.9	46.08	26.065	
11,600.0	11,591.1	10,626.0	10,392.2	41.4	26.3	10.54	10.6	-281.5	1,224.7	1,178.6	46.09	26.569	
11,625.0	11,615.7	10,626.0	10,392.2	41.5	26.3	9.21	10.6	-281.5	1,248.0	1,201.9	46.10	27.069	
11,650.0	11,640.2	10,626.0	10,392.2	41.6	26.3	8.17	10.6	-281.5	1,270.9	1,224.8	46.11	27.562	
11,675.0	11,664.3	10,626.0	10,392.2	41.6	26.3	7.35	10.6	-281.5	1,293.3	1,247.2	46.11	28.046	
11,700.0	11,688.0	10,639.6	10,394.4	41.7	26.4	6.20	-2.8	-281.6	1,315.1	1,268.8	46.21	28.460	
11,725.0	11,711.3	10,643.6	10,395.0	41.8	26.4	5.57	-6.8	-281.7	1,336.3	1,290.1	46.23	28.907	
11,750.0	11,734.1	10,657.0	10,396.9	41.8	26.5	4.79	-20.0	-282.0	1,357.1	1,310.8	46.31	29.307	
11,775.0	11,756.3	10,657.0	10,396.9	41.9	26.5	4.47	-20.0	-282.0	1,377.0	1,330.7	46.29	29.748	
11,800.0	11,777.9	10,657.0	10,396.9	42.0	26.5	4.19	-20.0	-282.0	1,396.3	1,350.1	46.27	30.175	
11,825.0	11,798.8	10,657.0	10,396.9	42.0	26.5	3.96	-20.0	-282.0	1,415.0	1,368.7	46.26	30.587	
11,850.0	11,818.9	10,657.0	10,396.9	42.1	26.5	3.75	-20.0	-282.0	1,433.0	1,386.7	46.25	30.984	
11,875.0	11,838.3	10,672.6	10,398.8	42.1	26.5	3.28	-35.5	-282.4	1,450.0	1,403.6	46.31	31.307	
11,900.0	11,856.8	10,688.0	10,400.2	42.2	26.6	2.87	-50.8	-282.9	1,466.4	1,420.0	46.37	31.621	
11,925.0	11,874.4	10,688.0	10,400.2	42.2	26.6	2.76	-50.8	-282.9	1,481.8	1,435.4	46.36	31.964	
11,950.0	11,891.0	10,688.0	10,400.2	42.3	26.6	2.66	-50.8	-282.9	1,496.4	1,450.1	46.35	32.286	
11,975.0	11,906.7	10,688.0	10,400.2	42.3	26.6	2.56	-50.8	-282.9	1,510.2	1,463.9	46.34	32.588	
12,000.0	11,921.3	10,701.7	10,401.2	42.4	26.7	2.29	-64.5	-283.3	1,523.0	1,476.7	46.39	32.832	
12,025.0	11,934.8	10,708.0	10,401.6	42.4	26.7	2.14	-70.8	-283.5	1,535.0	1,488.6	46.41	33.074	
12,050.0	11,947.2	10,720.0	10,402.1	42.5	26.8	1.93	-82.7	-283.9	1,546.1	1,499.6	46.45	33.284	
12,075.0	11,958.4	10,720.0	10,402.1	42.5	26.8	1.89	-82.7	-283.9	1,556.2	1,509.7	46.46	33.494	
12,100.0	11,968.5	10,732.1	10,402.5	42.5	26.9	1.70	-94.9	-284.2	1,565.3	1,518.8	46.50	33.661	
12,125.0	11,977.3	10,751.0	10,402.9	42.6	27.0	1.45	-113.7	-284.8	1,573.4	1,526.8	46.55	33.797	
12,150.0	11,984.9	10,751.0	10,402.9	42.6	27.0	1.42	-113.7	-284.8	1,580.4	1,533.8	46.58	33.929	
12,175.0	11,991.3	10,771.4	10,403.1	42.6	27.1	1.17	-134.1	-285.4	1,586.3	1,539.7	46.63	34.020	
12,200.0	11,996.4	10,789.2	10,403.2	42.7	27.2	0.96	-151.9	-285.9	1,591.1	1,544.4	46.68	34.086	
12,225.0	12,000.2	10,810.4	10,403.3	42.7	27.4	0.71	-173.0	-286.5	1,594.6	1,547.9	46.73	34.123	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #1H - OWB - ACTUAL												Offset Site Error:	0.0 usft
Survey Program: 239-MWD, 761-MWD, 4644-MWD, 9817-MWD												Offset Well Error:	2.0 usft
Reference		Offset		Semi Major Axis		Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
12,250.0	12,002.7	10,831.6	10,403.3	42.7	27.5	0.47	-194.3	-286.9	1,597.0	1,550.2	46.79	34.133	
12,275.0	12,003.9	10,852.8	10,403.4	42.7	27.7	0.23	-215.5	-287.3	1,598.1	1,551.3	46.84	34.116	
12,285.7	12,004.0	10,861.9	10,403.4	42.7	27.8	0.12	-224.6	-287.5	1,598.2	1,551.3	46.87	34.101	
12,294.5	12,004.0	10,869.4	10,403.4	42.7	27.8	0.04	-232.1	-287.5	1,598.2	1,551.3	46.89	34.086	
12,300.0	12,003.9	10,877.0	10,403.3	42.7	27.9	-0.05	-239.7	-287.6	1,598.2	1,551.3	46.90	34.075	
12,400.0	12,003.8	10,997.8	10,404.1	42.8	28.9	-1.31	-360.4	-287.0	1,597.8	1,550.6	47.23	33.834	
12,500.0	12,003.7	11,133.7	10,408.2	42.9	30.1	-2.48	-496.2	-282.2	1,595.4	1,547.8	47.68	33.460	
12,600.0	12,003.6	11,209.9	10,411.2	43.0	30.8	-2.93	-572.3	-278.6	1,592.4	1,544.3	48.08	33.120	
12,700.0	12,003.5	11,299.9	10,413.0	43.1	31.7	-3.31	-662.1	-273.7	1,591.0	1,542.5	48.57	32.757	
12,780.8	12,003.4	11,410.2	10,416.5	43.1	32.9	-3.50	-772.2	-268.7	1,588.7	1,539.6	49.07	32.374	
12,800.0	12,003.4	11,435.5	10,417.6	43.2	33.1	-3.53	-797.5	-267.7	1,587.9	1,538.7	49.19	32.281	
12,900.0	12,003.3	11,516.4	10,420.8	43.3	34.0	-3.64	-878.3	-264.4	1,584.0	1,534.3	49.70	31.875	
13,000.0	12,003.2	11,595.4	10,422.9	43.4	34.9	-3.76	-957.1	-260.8	1,581.6	1,531.3	50.25	31.476	
13,100.0	12,003.1	11,726.4	10,426.0	43.6	36.5	-3.94	-1,088.0	-255.2	1,579.5	1,528.5	50.96	30.992	
13,200.0	12,003.0	11,818.0	10,429.2	43.7	37.6	-4.07	-1,179.4	-251.1	1,576.2	1,524.5	51.64	30.523	
13,300.0	12,002.9	11,896.2	10,431.3	43.9	38.6	-4.21	-1,257.5	-246.9	1,573.7	1,521.4	52.31	30.084	
13,400.0	12,002.8	12,005.9	10,433.7	44.1	40.0	-4.39	-1,367.1	-241.5	1,571.7	1,518.6	53.09	29.607	
13,500.0	12,002.7	12,094.7	10,435.8	44.3	41.1	-4.51	-1,455.8	-237.8	1,569.6	1,515.8	53.85	29.147	
13,600.0	12,002.6	12,214.2	10,439.1	44.6	42.8	-4.62	-1,575.1	-234.5	1,566.9	1,512.2	54.72	28.635	
13,700.0	12,002.5	12,289.0	10,440.6	44.8	43.8	-4.65	-1,649.9	-233.2	1,564.8	1,509.3	55.52	28.183	
13,800.0	12,002.4	12,418.9	10,443.9	45.1	45.6	-4.71	-1,779.7	-231.1	1,562.1	1,505.6	56.51	27.642	
13,900.0	12,002.3	12,507.0	10,446.6	45.4	46.8	-4.76	-1,867.8	-229.5	1,559.2	1,501.7	57.41	27.159	
14,000.0	12,002.2	12,601.3	10,448.5	45.6	48.1	-4.82	-1,962.1	-227.3	1,557.1	1,498.8	58.34	26.691	
14,100.0	12,002.1	12,740.9	10,453.2	46.0	50.1	-4.87	-2,101.6	-225.7	1,553.7	1,494.3	59.40	26.156	
14,200.0	12,002.0	12,805.4	10,455.8	46.3	51.0	-4.88	-2,166.0	-225.1	1,549.8	1,489.5	60.35	25.679	
14,300.0	12,001.9	12,880.8	10,456.2	46.6	52.1	-4.85	-2,241.4	-225.6	1,548.8	1,487.4	61.39	25.229	
14,400.0	12,001.8	13,012.9	10,459.3	47.0	54.0	-4.70	-2,373.4	-229.1	1,545.8	1,483.3	62.58	24.704	
14,500.0	12,001.7	13,096.7	10,461.1	47.3	55.3	-4.60	-2,457.2	-231.4	1,543.4	1,479.8	63.59	24.270	
14,600.0	12,001.6	13,208.4	10,462.8	47.7	56.9	-4.49	-2,568.8	-233.8	1,541.6	1,476.9	64.68	23.835	
14,700.0	12,001.4	13,292.9	10,464.5	48.1	58.1	-4.40	-2,653.3	-236.0	1,539.2	1,473.5	65.73	23.416	
14,800.0	12,001.3	13,383.1	10,465.2	48.5	59.5	-4.30	-2,743.4	-238.1	1,538.1	1,471.3	66.82	23.018	
14,900.0	12,001.2	13,505.5	10,466.4	48.9	61.3	-4.05	-2,865.7	-244.1	1,536.7	1,468.7	67.97	22.608	
15,000.0	12,001.1	13,660.4	10,472.4	49.3	63.6	-3.60	-3,020.0	-255.6	1,532.0	1,462.8	69.20	22.137	
15,100.0	12,001.0	13,755.5	10,477.6	49.8	65.0	-3.30	-3,114.7	-263.4	1,525.9	1,455.6	70.34	21.694	
15,200.0	12,000.9	13,836.3	10,481.2	50.2	66.3	-3.05	-3,195.1	-269.8	1,520.9	1,449.4	71.46	21.283	
15,300.0	12,000.8	13,911.5	10,483.6	50.7	67.4	-2.84	-3,270.1	-275.2	1,517.2	1,444.6	72.60	20.900	
15,400.0	12,000.7	13,982.0	10,484.4	51.1	68.5	-2.66	-3,340.5	-279.4	1,515.6	1,441.8	73.75	20.551	
15,432.2	12,000.7	14,002.4	10,484.4	51.3	68.8	-2.62	-3,360.8	-280.5	1,515.4	1,441.3	74.12	20.446	
15,500.0	12,000.6	14,050.4	10,484.0	51.6	69.5	-2.53	-3,408.7	-282.5	1,515.9	1,441.0	74.92	20.234	
15,600.0	12,000.5	14,188.7	10,482.9	52.1	71.6	-2.36	-3,547.0	-285.9	1,516.6	1,440.4	76.25	19.890	
15,700.0	12,000.4	14,326.5	10,485.9	52.6	73.8	-2.26	-3,684.8	-288.1	1,514.2	1,436.7	77.56	19.523	
15,800.0	12,000.3	14,454.9	10,491.8	53.1	75.8	-2.21	-3,813.0	-288.8	1,509.5	1,430.6	78.86	19.141	
15,900.0	12,000.2	14,547.0	10,497.2	53.6	77.2	-2.20	-3,905.0	-288.7	1,503.6	1,423.4	80.11	18.768	
16,000.0	12,000.1	14,641.0	10,501.8	54.1	78.7	-2.19	-3,998.9	-288.6	1,498.6	1,417.2	81.39	18.412	
16,100.0	12,000.0	14,715.2	10,504.1	54.7	79.8	-2.15	-4,073.0	-289.2	1,495.1	1,412.5	82.65	18.090	
16,200.0	11,999.9	14,802.4	10,506.2	55.2	81.2	-2.10	-4,160.2	-290.1	1,492.6	1,408.7	83.92	17.785	
16,300.0	11,999.8	14,872.0	10,507.4	55.8	82.3	-2.06	-4,229.8	-290.8	1,490.9	1,405.7	85.17	17.505	
16,301.1	11,999.8	14,872.0	10,507.4	55.8	82.3	-2.06	-4,229.8	-290.8	1,490.9	1,405.7	85.18	17.502	
16,400.0	11,999.7	14,872.0	10,507.4	56.3	82.3	-2.06	-4,229.8	-290.8	1,494.2	1,407.9	86.24	17.325	
16,500.0	11,999.6	14,872.0	10,507.4	56.9	82.3	-2.06	-4,229.8	-290.8	1,504.1	1,416.9	87.18	17.252	
16,600.0	11,999.5	14,872.0	10,507.4	57.4	82.3	-2.06	-4,229.8	-290.8	1,520.6	1,432.6	87.98	17.283	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #1H - OWB - ACTUAL													Offset Site Error:	0.0 usft
Survey Program: 239-MWD, 761-MWD, 4644-MWD, 9817-MWD													Offset Well Error:	2.0 usft
Reference		Offset		Semi Major Axis			Distance							Warning
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (")	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
16,700.0	11,999.4	14,872.0	10,507.4	58.0	82.3	-2.06	-4,229.8	-290.8	1,543.4	1,454.7	88.62	17.415		
16,800.0	11,999.3	14,872.0	10,507.4	58.6	82.3	-2.06	-4,229.8	-290.8	1,572.2	1,483.1	89.10	17.644		
16,900.0	11,999.2	14,872.0	10,507.4	59.2	82.3	-2.06	-4,229.8	-290.8	1,606.7	1,517.3	89.44	17.964		
17,000.0	11,999.1	14,872.0	10,507.4	59.8	82.3	-2.06	-4,229.8	-290.8	1,646.6	1,557.0	89.63	18.370		
17,100.0	11,999.0	14,872.0	10,507.4	60.4	82.3	-2.06	-4,229.8	-290.8	1,691.5	1,601.8	89.71	18.856		
17,200.0	11,998.9	14,872.0	10,507.4	61.0	82.3	-2.06	-4,229.8	-290.8	1,740.9	1,651.3	89.67	19.414		
17,300.0	11,998.7	14,872.0	10,507.4	61.6	82.3	-2.06	-4,229.8	-290.8	1,794.6	1,705.1	89.55	20.040		
17,400.0	11,998.6	14,872.0	10,507.4	62.3	82.3	-2.06	-4,229.8	-290.8	1,852.1	1,762.8	89.36	20.727		
17,500.0	11,998.5	14,872.0	10,507.4	62.9	82.3	-2.06	-4,229.8	-290.8	1,913.2	1,824.1	89.11	21.469		
17,600.0	11,998.4	14,872.0	10,507.4	63.5	82.3	-2.06	-4,229.8	-290.8	1,977.4	1,888.6	88.83	22.261		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

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COMPASS 5000.15 Build 91E

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #5H - OWB - ACTUAL													Offset Site Error:	0.0 usft
Survey Program: 100-GYD_GC+WIR+DPIPE, 8399-MWD													Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis			Distance								Warning	
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor		
0.0	0.0	0.0	0.0	3.0	0.0	-19.13	498.7	-173.0	527.9					
100.0	100.0	99.1	99.1	3.0	0.1	-19.19	498.4	-173.5	527.7	524.6	3.08	171.335		
200.0	200.0	198.6	198.6	3.0	0.3	-19.31	497.8	-174.4	527.5	524.2	3.32	158.653		
300.0	300.0	298.4	298.4	3.1	0.5	-19.44	497.3	-175.5	527.3	523.7	3.61	145.995		
400.0	400.0	398.6	398.6	3.2	0.7	-19.57	496.7	-176.6	527.1	523.2	3.94	133.857		
500.0	500.0	499.7	499.7	3.4	0.9	-19.72	495.9	-177.8	526.9	522.6	4.30	122.513		
600.0	600.0	600.0	599.9	3.6	1.2	-19.90	495.0	-179.2	526.4	521.7	4.69	112.226		
700.0	700.0	699.8	699.7	3.8	1.4	-20.07	494.1	-180.5	526.0	520.9	5.11	103.020		
788.7	788.7	786.3	786.3	4.0	1.6	-20.23	493.4	-181.8	525.8	520.4	5.49	95.819		
800.0	800.0	797.4	797.3	4.0	1.6	-20.25	493.3	-182.0	525.8	520.3	5.54	94.955		
900.0	900.0	897.5	897.4	4.2	1.8	-20.44	492.8	-183.7	525.9	519.9	5.99	87.757		
1,000.0	1,000.0	997.4	997.3	4.5	2.0	-20.64	492.2	-185.4	525.9	519.5	6.46	81.385		
1,100.0	1,100.0	1,098.6	1,098.4	4.8	2.2	-20.81	491.6	-186.9	525.9	518.9	6.95	75.696		
1,200.0	1,200.0	1,198.8	1,198.6	5.1	2.5	-20.97	490.9	-188.2	525.7	518.3	7.44	70.648		
1,300.0	1,300.0	1,298.7	1,298.6	5.4	2.7	-21.13	490.2	-189.5	525.5	517.6	7.94	66.157		
1,396.9	1,396.9	1,394.7	1,394.5	5.6	2.9	-21.27	489.6	-190.6	525.4	517.0	8.44	62.287		
1,400.0	1,400.0	1,397.7	1,397.6	5.7	2.9	-21.28	489.6	-190.7	525.4	517.0	8.45	62.171		
1,500.0	1,500.0	1,497.0	1,496.8	6.0	3.1	-21.41	489.3	-191.8	525.5	516.5	8.97	58.611		
1,600.0	1,600.0	1,595.9	1,595.8	6.3	3.3	-21.52	489.1	-192.8	525.8	516.3	9.49	55.429		
1,700.0	1,700.0	1,693.5	1,693.3	6.6	3.5	-21.59	489.4	-193.7	526.3	516.3	10.01	52.602		
1,800.0	1,800.0	1,793.3	1,793.1	6.9	3.7	-21.61	490.1	-194.2	527.2	516.6	10.54	50.036		
1,900.0	1,900.0	1,892.5	1,892.3	7.2	3.9	-21.60	491.0	-194.4	528.1	517.0	11.07	47.710		
2,000.0	2,000.0	1,992.4	1,992.2	7.6	4.1	-21.58	492.0	-194.6	529.1	517.5	11.61	45.585		
2,100.0	2,100.0	2,092.6	2,092.4	7.9	4.3	-21.55	493.0	-194.7	530.1	518.0	12.15	43.634		
2,200.0	2,200.0	2,193.2	2,193.0	8.2	4.5	-21.49	494.1	-194.6	531.1	518.4	12.69	41.832		
2,300.0	2,300.0	2,295.6	2,295.4	8.6	4.8	-21.45	494.9	-194.5	531.7	518.5	13.25	40.138		
2,400.0	2,400.0	2,398.5	2,398.3	8.9	5.0	-21.46	495.0	-194.6	531.8	518.0	13.80	38.541		
2,500.0	2,500.0	2,503.2	2,503.0	9.2	5.2	-21.53	494.2	-194.9	531.3	516.9	14.35	37.011		
2,600.0	2,600.0	2,604.0	2,603.8	9.6	5.4	7.46	492.8	-195.4	528.4	513.5	14.90	35.461		
2,700.0	2,699.8	2,706.7	2,706.5	9.9	5.6	7.43	491.0	-195.9	521.8	506.3	15.45	33.766		
2,800.0	2,799.6	2,809.4	2,809.1	10.3	5.8	7.47	488.9	-195.7	512.9	496.9	16.01	32.044		
2,900.0	2,899.4	2,912.9	2,912.6	10.6	6.0	7.63	486.4	-194.2	503.2	486.6	16.56	30.390		
3,000.0	2,999.1	3,011.8	3,011.5	10.9	6.2	7.94	484.1	-191.4	493.2	476.0	17.11	28.829		
3,100.0	3,098.9	3,103.9	3,103.5	11.3	6.4	8.39	483.3	-188.0	484.0	466.4	17.65	27.429		
3,200.0	3,198.6	3,200.0	3,199.5	11.6	6.6	8.99	483.7	-183.9	476.1	457.9	18.19	26.166		
3,300.0	3,298.4	3,295.6	3,295.0	12.0	6.8	9.60	484.8	-180.1	468.9	450.2	18.74	25.022		
3,400.0	3,398.1	3,394.8	3,394.1	12.3	7.0	10.23	486.4	-176.5	462.4	443.1	19.30	23.963		
3,500.0	3,497.9	3,489.9	3,489.2	12.7	7.2	10.78	488.1	-173.7	456.4	436.5	19.84	23.000		
3,600.0	3,597.6	3,591.3	3,590.5	13.0	7.4	11.23	490.1	-172.0	450.8	430.4	20.40	22.096		
3,700.0	3,697.4	3,693.9	3,693.1	13.4	7.6	11.63	491.3	-170.6	444.7	423.8	20.97	21.211		
3,800.0	3,797.2	3,793.6	3,792.8	13.7	7.8	12.01	492.2	-169.3	438.3	416.8	21.52	20.363		
3,900.0	3,896.9	3,894.5	3,893.6	14.1	8.0	12.42	492.9	-167.9	431.8	409.7	22.09	19.552		
4,000.0	3,996.7	3,996.7	3,995.9	14.4	8.2	12.88	493.4	-166.0	424.9	402.3	22.65	18.762		
4,100.0	4,096.4	4,097.8	4,097.0	14.8	8.5	13.40	493.5	-163.8	417.6	394.4	23.21	17.992		
4,200.0	4,196.2	4,198.9	4,198.0	15.1	8.7	13.96	493.3	-161.2	409.9	386.2	23.77	17.245		
4,300.0	4,295.9	4,301.1	4,300.2	15.5	8.9	14.52	492.5	-158.8	401.8	377.5	24.34	16.513		
4,400.0	4,395.7	4,400.3	4,399.3	15.8	9.1	15.06	491.5	-156.5	393.5	368.6	24.90	15.806		
4,500.0	4,495.5	4,500.2	4,499.3	16.2	9.3	15.63	490.4	-154.2	385.2	359.8	25.46	15.132		
4,600.0	4,595.2	4,599.7	4,598.7	16.5	9.5	16.21	489.3	-151.9	376.9	350.9	26.02	14.486		
4,700.0	4,695.0	4,699.0	4,698.0	16.9	9.7	16.83	488.3	-149.6	368.7	342.2	26.58	13.871		
4,800.0	4,794.7	4,798.9	4,797.9	17.2	9.9	17.47	487.3	-147.3	360.6	333.4	27.15	13.283		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #5H - OWB - ACTUAL												Offset Site Error: 0.0 usft	
Survey Program: 100-GYD_GC+WIR+DPIPE, 8399-MWD												Offset Well Error: 0.0 usft	
Reference		Offset		Semi Major Axis			Distance						
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
4,900.0	4,894.5	4,898.2	4,897.1	17.6	10.1	18.14	486.2	-145.0	352.5	324.7	27.71	12.719	
5,000.0	4,994.2	4,997.8	4,996.6	17.9	10.3	18.84	485.2	-142.7	344.4	316.2	28.27	12.182	
5,100.0	5,094.0	5,088.4	5,087.2	18.3	10.5	19.38	485.3	-141.6	337.8	308.9	28.83	11.715	
5,200.0	5,193.7	5,183.7	5,182.5	18.7	10.7	19.68	487.2	-142.4	333.2	303.9	29.38	11.341	
5,300.0	5,293.5	5,282.5	5,281.2	19.0	10.9	19.89	489.9	-144.0	329.6	299.6	29.95	11.006	
5,400.0	5,393.3	5,382.6	5,381.3	19.4	11.1	20.08	492.6	-145.7	326.0	295.5	30.51	10.685	
5,500.0	5,493.0	5,482.4	5,481.0	19.7	11.3	20.27	495.3	-147.5	322.4	291.3	31.08	10.374	
5,600.0	5,592.8	5,582.1	5,580.8	20.1	11.6	20.46	498.0	-149.3	318.8	287.2	31.64	10.077	
5,700.0	5,692.5	5,682.2	5,680.8	20.4	11.8	20.64	500.8	-151.1	315.3	283.1	32.21	9.790	
5,800.0	5,792.3	5,782.2	5,780.8	20.8	12.0	20.86	503.5	-152.8	311.7	278.9	32.77	9.511	
5,900.0	5,892.0	5,882.5	5,880.9	21.1	12.2	21.12	506.2	-154.4	308.1	274.7	33.34	9.240	
6,000.0	5,991.8	5,983.0	5,981.4	21.5	12.4	21.41	508.8	-155.7	304.3	270.4	33.91	8.974	
6,089.7	6,081.3	6,078.6	6,077.0	21.8	12.6	21.72	510.4	-156.7	300.1	265.7	34.42	8.718	
6,100.0	6,091.6	6,089.6	6,088.0	21.9	12.6	21.76	510.5	-156.8	299.5	265.0	34.48	8.685	
6,200.0	6,191.4	6,190.7	6,189.1	22.2	12.8	22.09	510.5	-157.3	294.0	259.0	35.05	8.390	
6,300.0	6,291.3	6,290.5	6,288.9	22.6	13.0	22.30	510.4	-157.7	290.1	254.5	35.61	8.147	
6,400.0	6,391.3	6,390.9	6,389.3	22.9	13.3	22.37	510.2	-158.2	287.8	251.6	36.18	7.956	
6,489.7	6,481.0	6,480.9	6,479.3	23.2	13.4	-6.73	510.0	-158.6	287.0	250.3	36.68	7.823	
6,500.0	6,491.3	6,491.2	6,489.6	23.3	13.5	-6.74	510.0	-158.7	287.0	250.2	36.74	7.810	
6,600.0	6,591.3	6,591.6	6,590.0	23.6	13.7	-6.86	509.6	-159.2	286.6	249.3	37.30	7.684	
6,700.0	6,691.3	6,691.3	6,689.7	24.0	13.9	-6.98	509.1	-159.8	286.3	248.4	37.87	7.560	
6,800.0	6,791.3	6,793.4	6,791.7	24.3	14.1	-7.10	508.4	-160.3	285.6	247.2	38.43	7.434	
6,900.0	6,891.3	6,894.0	6,892.4	24.7	14.3	-7.24	507.2	-160.8	284.5	245.5	38.99	7.297	
7,000.0	6,991.3	7,001.0	6,999.4	25.1	14.5	-7.55	504.4	-162.1	282.1	242.5	39.53	7.135	
7,100.0	7,091.3	7,101.2	7,099.5	25.4	14.7	-8.06	500.4	-164.0	278.3	238.2	40.10	6.941	
7,200.0	7,191.3	7,200.0	7,198.2	25.8	15.0	-8.59	496.5	-166.0	274.7	234.0	40.66	6.756	
7,300.0	7,291.3	7,300.4	7,298.5	26.1	15.2	-9.14	492.6	-168.1	271.2	230.0	41.22	6.580	
7,400.0	7,391.3	7,399.5	7,397.5	26.5	15.4	-9.72	488.9	-170.2	267.9	226.1	41.79	6.409	
7,500.0	7,491.3	7,502.2	7,500.1	26.8	15.6	-10.32	484.6	-172.3	264.1	221.8	42.34	6.238	
7,600.0	7,591.3	7,602.6	7,600.3	27.2	15.8	-10.90	479.9	-174.1	259.8	216.9	42.90	6.055	
7,700.0	7,691.3	7,702.0	7,699.6	27.5	16.0	-11.50	475.1	-175.9	255.5	212.0	43.47	5.877	
7,800.0	7,791.3	7,801.2	7,798.7	27.9	16.2	-12.10	470.7	-177.7	251.4	207.4	44.04	5.709	
7,900.0	7,891.3	7,900.8	7,898.2	28.2	16.4	-12.67	466.4	-179.3	247.6	203.0	44.61	5.551	
8,000.0	7,991.3	8,000.3	7,997.6	28.6	16.6	-13.22	462.3	-180.7	243.9	198.8	45.17	5.400	
8,100.0	8,091.3	8,101.8	8,099.0	29.0	16.9	-13.80	457.9	-182.2	240.0	194.3	45.73	5.249	
8,200.0	8,191.3	8,202.3	8,199.3	29.3	17.1	-14.39	453.1	-183.5	235.7	189.4	46.29	5.092	
8,300.0	8,291.3	8,302.1	8,299.0	29.7	17.3	-14.99	448.2	-184.8	231.3	184.4	46.85	4.937	
8,400.0	8,391.3	8,403.0	8,399.7	30.0	17.4	-15.62	443.1	-186.0	226.7	179.4	47.34	4.789	
8,500.0	8,491.3	8,501.0	8,497.6	30.4	17.5	-16.14	438.4	-186.8	222.4	174.6	47.72	4.659	
8,600.0	8,591.3	8,600.7	8,597.3	30.7	17.5	-16.54	434.3	-187.2	218.5	170.4	48.10	4.543	
8,700.0	8,691.3	8,705.5	8,701.9	31.1	17.5	-17.15	428.9	-187.9	213.8	165.3	48.44	4.414	
8,800.0	8,791.3	8,841.0	8,835.4	31.4	18.9	-20.30	407.9	-192.6	200.5	151.6	48.83	4.105	
8,900.0	8,891.3	8,958.5	8,945.1	31.8	21.6	-28.98	367.7	-204.0	172.5	122.9	49.64	3.476	
9,000.0	8,991.3	9,062.3	9,034.8	32.2	23.2	-44.99	317.3	-217.3	138.4	88.9	49.43	2.799	
9,100.0	9,091.3	9,144.4	9,098.5	32.5	23.9	-68.13	267.5	-231.0	114.6	64.4	50.19	2.284	
9,119.1	9,110.3	9,157.7	9,107.9	32.6	23.9	-72.84	258.6	-233.7	113.8	63.3	50.51	2.253 CC, ES, SF	
9,200.0	9,191.3	9,207.9	9,141.4	32.9	23.9	-90.93	223.1	-245.2	129.2	78.2	51.03	2.532	
9,300.0	9,291.3	9,265.0	9,175.4	33.2	24.0	-109.04	179.0	-258.2	180.9	131.3	49.64	3.644	
9,400.0	9,391.3	9,308.5	9,198.1	33.6	24.1	-120.29	142.8	-265.7	250.8	203.4	47.45	5.286	
9,500.0	9,491.3	9,337.3	9,211.4	33.9	24.1	-126.44	117.7	-270.3	331.1	285.8	45.35	7.302	
9,600.0	9,591.3	9,360.0	9,220.5	34.3	24.1	-130.61	97.2	-274.1	417.4	373.5	43.91	9.506	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #5H - OWB - ACTUAL												Offset Site Error:	0.0 usft
Survey Program: 100-GYD_GC+WIR+DPIPE, 8399-MWD												Offset Well Error:	0.0 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,700.0	9,691.3	9,374.5	9,225.7	34.6	24.1	-132.98	83.8	-276.5	507.3	464.5	42.80	11.854	
9,800.0	9,791.3	9,391.0	9,230.9	35.0	24.1	-135.40	68.5	-279.4	599.7	557.4	42.24	14.197	
9,900.0	9,891.3	9,391.0	9,230.9	35.4	24.1	-135.40	68.5	-279.4	693.7	652.2	41.48	16.724	
10,000.0	9,991.3	9,406.6	9,235.2	35.7	24.2	-137.45	53.7	-282.2	788.7	747.3	41.41	19.044	
10,100.0	10,091.3	9,423.0	9,239.0	36.1	24.2	-139.36	38.1	-285.4	884.8	843.3	41.48	21.332	
10,200.0	10,191.3	9,423.0	9,239.0	36.4	24.2	-139.36	38.1	-285.4	981.2	939.9	41.28	23.770	
10,300.0	10,291.3	9,423.0	9,239.0	36.8	24.2	-139.36	38.1	-285.4	1,078.3	1,037.1	41.20	26.172	
10,400.0	10,391.3	9,423.0	9,239.0	37.1	24.2	-139.36	38.1	-285.4	1,175.9	1,134.7	41.21	28.537	
10,500.0	10,491.3	9,423.0	9,239.0	37.5	24.2	-139.36	38.1	-285.4	1,273.8	1,232.6	41.27	30.862	
10,600.0	10,591.3	9,437.5	9,241.8	37.9	24.2	-140.89	24.2	-288.3	1,371.7	1,330.1	41.59	32.981	
10,700.0	10,691.3	9,440.6	9,242.3	38.2	24.2	-141.20	21.2	-288.9	1,470.0	1,428.2	41.77	35.192	
10,800.0	10,791.3	9,454.0	9,244.2	38.6	24.2	-142.47	8.2	-291.5	1,568.7	1,526.6	42.10	37.257	
10,900.0	10,891.3	9,454.0	9,244.2	38.9	24.2	-142.47	8.2	-291.5	1,667.3	1,625.0	42.29	39.422	
11,000.0	10,991.3	9,454.0	9,244.2	39.3	24.2	-142.47	8.2	-291.5	1,766.0	1,723.5	42.50	41.549	
11,100.0	11,091.3	9,454.0	9,244.2	39.6	24.2	-142.47	8.2	-291.5	1,864.8	1,822.1	42.74	43.637	
11,200.0	11,191.3	9,454.0	9,244.2	40.0	24.2	-142.47	8.2	-291.5	1,963.8	1,920.8	42.98	45.687	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #6H - OWB - ACTUAL													Offset Site Error:	0.0 usft
Survey Program: 100-Standard Keeper 104, 8667-MWD+IFR1+MS													Offset Well Error:	3.0 usft
Reference		Offset		Semi Major Axis			Distance							
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning	
0.0	0.0	0.0	0.0	3.0	3.0	-15.99	498.9	-143.0	519.0					
100.0	100.0	93.7	93.7	3.0	3.0	-16.00	499.3	-143.1	519.4	513.4	6.00	86.518		
200.0	200.0	193.9	193.9	3.0	3.0	-16.01	500.0	-143.5	520.2	514.1	6.04	86.055		
300.0	300.0	293.6	293.6	3.1	3.0	-16.03	500.7	-143.8	521.0	514.8	6.13	84.951		
400.0	400.0	394.4	394.4	3.2	3.0	-16.05	501.4	-144.3	521.8	515.5	6.26	83.295		
500.0	500.0	501.5	501.4	3.4	3.0	-16.15	501.2	-145.2	521.8	515.4	6.42	81.226		
600.0	600.0	602.0	601.9	3.6	3.1	-16.32	500.0	-146.4	521.1	514.4	6.61	78.872		
700.0	700.0	701.1	701.0	3.8	3.1	-16.34	499.4	-146.4	520.4	513.6	6.81	76.375		
800.0	800.0	801.4	801.4	4.0	3.1	-16.22	499.1	-145.2	519.8	512.8	7.05	73.757		
900.0	900.0	902.4	902.4	4.2	3.1	-16.06	498.8	-143.6	519.1	511.8	7.30	71.075		
1,000.0	1,000.0	1,003.6	1,003.5	4.5	3.1	-15.89	498.2	-141.8	518.1	510.5	7.58	68.386		
1,100.0	1,100.0	1,103.4	1,103.3	4.8	3.1	-15.69	497.8	-139.9	517.1	509.2	7.86	65.755		
1,200.0	1,200.0	1,204.2	1,204.1	5.1	3.1	-15.47	497.1	-137.6	515.9	507.7	8.16	63.183		
1,300.0	1,300.0	1,303.6	1,303.4	5.4	3.1	-15.25	496.5	-135.3	514.6	506.1	8.48	60.707		
1,400.0	1,400.0	1,402.9	1,402.7	5.7	3.2	-14.99	496.2	-132.8	513.7	504.9	8.80	58.377		
1,500.0	1,500.0	1,502.4	1,502.2	6.0	3.2	-14.74	495.9	-130.5	512.8	503.6	9.13	56.169		
1,566.9	1,566.9	1,565.0	1,564.8	6.2	3.2	-14.60	495.8	-129.2	512.4	503.0	9.35	54.785		
1,600.0	1,600.0	1,593.8	1,593.6	6.3	3.2	-14.56	496.1	-128.8	512.5	503.1	9.46	54.164		
1,700.0	1,700.0	1,691.5	1,691.3	6.6	3.3	-14.46	497.4	-128.3	513.7	503.9	9.80	52.424		
1,800.0	1,800.0	1,791.6	1,791.4	6.9	3.3	-14.34	498.9	-127.5	515.0	504.9	10.14	50.767		
1,900.0	1,900.0	1,891.7	1,891.5	7.2	3.4	-14.21	500.5	-126.7	516.3	505.8	10.50	49.184		
2,000.0	2,000.0	1,991.4	1,991.1	7.6	3.4	-14.06	502.0	-125.7	517.6	506.7	10.86	47.677		
2,100.0	2,100.0	2,090.9	2,090.6	7.9	3.5	-13.91	503.7	-124.8	519.0	507.7	11.22	46.253		
2,200.0	2,200.0	2,192.1	2,191.8	8.2	3.5	-13.75	505.3	-123.7	520.2	508.6	11.59	44.885		
2,300.0	2,300.0	2,301.1	2,300.8	8.6	3.6	-13.63	506.1	-122.7	520.7	508.8	11.96	43.531		
2,400.0	2,400.0	2,407.8	2,407.4	8.9	3.6	-13.70	504.5	-123.0	519.3	507.0	12.32	42.143		
2,500.0	2,500.0	2,507.1	2,506.8	9.2	3.6	-13.83	502.5	-123.7	517.6	504.9	12.69	40.785		
2,600.0	2,600.0	2,608.6	2,608.2	9.6	3.6	15.15	500.3	-124.5	514.0	500.9	13.06	39.354		
2,700.0	2,699.8	2,713.0	2,712.5	9.9	3.6	15.16	497.7	-125.6	506.7	493.3	13.44	37.716		
2,800.0	2,799.6	2,816.3	2,815.8	10.3	3.7	15.16	493.7	-126.5	496.5	482.7	13.81	35.942		
2,900.0	2,899.4	2,916.8	2,916.2	10.6	3.7	15.18	489.6	-127.2	486.0	471.8	14.20	34.234		
3,000.0	2,999.1	3,016.4	3,015.7	10.9	3.7	15.21	485.5	-127.9	475.5	460.9	14.58	32.600		
3,100.0	3,098.9	3,115.3	3,114.6	11.3	3.8	15.28	481.4	-128.1	464.8	449.8	14.98	31.032		
3,200.0	3,198.6	3,212.6	3,211.8	11.6	3.8	15.39	477.9	-128.2	454.5	439.2	15.38	29.561		
3,300.0	3,298.4	3,311.8	3,310.9	12.0	3.9	15.55	474.6	-128.0	444.5	428.8	15.78	28.174		
3,400.0	3,398.1	3,410.7	3,409.7	12.3	3.9	15.72	471.3	-127.8	434.6	418.4	16.18	26.851		
3,500.0	3,497.9	3,509.5	3,508.5	12.7	4.0	15.89	468.3	-127.7	424.9	408.3	16.60	25.601		
3,600.0	3,597.6	3,609.5	3,608.4	13.0	4.1	16.08	465.2	-127.5	415.1	398.1	17.01	24.403		
3,700.0	3,697.4	3,709.9	3,708.8	13.4	4.1	16.27	461.9	-127.4	405.2	387.8	17.43	23.251		
3,800.0	3,797.2	3,810.6	3,809.4	13.7	4.2	16.52	458.3	-126.9	395.0	377.1	17.85	22.131		
3,900.0	3,896.9	3,910.8	3,909.6	14.1	4.3	16.81	454.7	-126.1	384.5	366.3	18.27	21.047		
4,000.0	3,996.7	4,010.8	4,009.5	14.4	4.4	17.16	450.9	-125.0	374.0	355.3	18.70	20.002		
4,100.0	4,096.4	4,109.8	4,108.5	14.8	4.4	17.58	447.2	-123.6	363.4	344.3	19.13	19.001		
4,200.0	4,196.2	4,211.3	4,209.8	15.1	4.5	18.05	443.2	-122.0	352.6	333.0	19.55	18.032		
4,300.0	4,295.9	4,309.7	4,308.2	15.5	4.6	18.56	439.1	-120.3	341.6	321.6	19.99	17.089		
4,400.0	4,395.7	4,405.8	4,404.1	15.8	4.7	19.16	435.9	-118.3	331.3	310.9	20.43	16.220		
4,500.0	4,495.5	4,504.4	4,502.7	16.2	4.8	19.85	433.2	-116.2	321.7	300.8	20.86	15.423		
4,600.0	4,595.2	4,602.3	4,600.6	16.5	4.9	20.58	430.9	-114.2	312.5	291.2	21.29	14.678		
4,700.0	4,695.0	4,701.4	4,699.6	16.9	5.0	21.38	428.9	-112.1	303.7	281.9	21.72	13.979		
4,800.0	4,794.7	4,801.3	4,799.5	17.2	5.1	22.27	426.8	-109.8	294.9	272.7	22.15	13.313		
4,900.0	4,894.5	4,901.1	4,899.2	17.6	5.2	23.23	424.7	-107.4	286.1	263.5	22.58	12.671		

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #6H - OWB - ACTUAL												Offset Site Error:	0.0 usft
Survey Program: 100-Standard Keeper 104, 8667-MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
5,000.0	4,994.2	5,000.5	4,998.6	17.9	5.3	24.26	422.7	-104.9	277.4	254.4	23.00	12.059	
5,100.0	5,094.0	5,099.8	5,097.8	18.3	5.4	25.34	420.6	-102.5	268.9	245.4	23.43	11.476	
5,200.0	5,193.7	5,199.3	5,197.2	18.7	5.5	26.50	418.7	-100.1	260.5	236.6	23.85	10.923	
5,300.0	5,293.5	5,300.8	5,298.7	19.0	5.6	27.73	416.2	-97.8	251.7	227.5	24.27	10.373	
5,400.0	5,393.3	5,400.4	5,398.3	19.4	5.7	28.99	413.3	-95.6	242.7	218.0	24.69	9.826	
5,500.0	5,493.0	5,500.4	5,498.2	19.7	5.8	30.30	410.4	-93.7	233.7	208.6	25.12	9.304	
5,600.0	5,592.8	5,599.5	5,597.2	20.1	5.9	31.68	407.5	-91.8	224.9	199.3	25.54	8.804	
5,700.0	5,692.5	5,698.6	5,696.2	20.4	6.0	33.16	404.7	-90.0	216.2	190.3	25.96	8.328	
5,800.0	5,792.3	5,798.4	5,795.9	20.8	6.1	34.77	401.8	-88.2	207.7	181.3	26.38	7.874	
5,900.0	5,892.0	5,898.0	5,895.5	21.1	6.2	36.52	398.8	-86.4	199.3	172.5	26.79	7.438	
6,000.0	5,991.8	5,997.7	5,995.2	21.5	6.3	38.38	395.8	-84.7	191.0	163.8	27.20	7.021	
6,089.7	6,081.3	6,087.0	6,084.5	21.8	6.4	40.16	393.0	-83.3	183.7	156.1	27.56	6.663	
6,100.0	6,091.6	6,097.4	6,094.8	21.9	6.4	40.35	392.7	-83.2	182.8	155.2	27.60	6.623	
6,200.0	6,191.4	6,197.7	6,195.0	22.2	6.5	42.11	389.3	-82.2	175.3	147.3	28.01	6.258	
6,300.0	6,291.3	6,297.3	6,294.6	22.6	6.6	43.52	385.8	-81.5	169.0	140.5	28.43	5.944	
6,400.0	6,391.3	6,397.9	6,395.1	22.9	6.7	44.63	382.1	-80.8	163.8	134.9	28.85	5.678	
6,489.7	6,481.0	6,487.7	6,484.9	23.2	6.8	16.25	378.5	-80.3	160.0	130.7	29.23	5.472	
6,500.0	6,491.3	6,497.9	6,495.1	23.3	6.8	16.31	378.1	-80.2	159.6	130.3	29.28	5.451	
6,600.0	6,591.3	6,598.4	6,595.4	23.6	6.9	16.89	373.9	-79.8	155.7	126.0	29.71	5.241	
6,700.0	6,691.3	6,697.4	6,694.4	24.0	7.0	17.46	369.8	-79.4	151.9	121.8	30.15	5.038	
6,800.0	6,791.3	6,797.0	6,793.9	24.3	7.2	17.91	366.4	-79.3	148.7	118.1	30.60	4.860	
6,900.0	6,891.3	6,896.9	6,893.8	24.7	7.3	18.35	363.1	-79.2	145.6	114.6	31.04	4.692	
7,000.0	6,991.3	6,995.8	6,992.6	25.1	7.4	19.13	359.9	-78.2	142.8	111.3	31.47	4.537	
7,100.0	7,091.3	7,095.9	7,092.6	25.4	7.5	20.37	356.7	-76.1	140.5	108.6	31.87	4.409	
7,200.0	7,191.3	7,196.2	7,192.8	25.8	7.6	21.49	353.3	-74.5	137.9	105.6	32.28	4.272	
7,300.0	7,291.3	7,296.0	7,292.5	26.1	7.7	22.56	349.9	-73.1	135.3	102.6	32.69	4.140	
7,400.0	7,391.3	7,396.2	7,392.7	26.5	7.8	23.67	346.6	-71.7	132.8	99.7	33.09	4.012	
7,500.0	7,491.3	7,495.6	7,492.1	26.8	7.9	24.82	343.2	-70.3	130.3	96.8	33.50	3.888	
7,600.0	7,591.3	7,595.4	7,591.8	27.2	8.1	25.99	340.2	-68.8	128.2	94.3	33.90	3.781	
7,700.0	7,691.3	7,695.1	7,691.5	27.5	8.2	27.31	337.2	-67.1	126.3	92.0	34.30	3.682	
7,800.0	7,791.3	7,795.0	7,791.3	27.9	8.3	28.75	334.2	-65.1	124.5	89.9	34.68	3.591	
7,900.0	7,891.3	7,894.6	7,890.7	28.2	8.4	30.20	331.4	-63.1	123.1	88.0	35.06	3.511	
8,000.0	7,991.3	7,994.4	7,990.5	28.6	8.5	31.74	328.6	-60.9	121.9	86.4	35.43	3.440	
8,100.0	8,091.3	8,094.2	8,090.2	29.0	8.7	33.32	326.0	-58.6	120.9	85.1	35.81	3.375	
8,200.0	8,191.3	8,194.3	8,190.4	29.3	8.8	35.03	323.2	-56.2	119.9	83.8	36.17	3.316	
8,300.0	8,291.3	8,294.5	8,290.4	29.7	8.9	36.88	320.1	-53.6	118.9	82.4	36.53	3.256	
8,400.0	8,391.3	8,394.6	8,390.4	30.0	9.0	38.74	317.0	-51.2	117.9	81.0	36.89	3.196	
8,500.0	8,491.3	8,494.9	8,490.7	30.4	9.1	40.48	313.7	-49.3	116.6	79.4	37.26	3.130	
8,600.0	8,591.3	8,595.1	8,590.9	30.7	9.3	42.11	310.5	-47.7	115.2	77.6	37.64	3.061	
8,700.0	8,691.3	8,697.9	8,693.5	31.1	9.3	43.81	306.5	-46.8	113.1	75.1	37.98	2.977	
8,800.0	8,791.3	8,803.3	8,797.6	31.4	9.5	51.45	291.2	-42.0	106.5	68.2	38.25	2.784	
8,894.5	8,885.8	8,895.2	8,883.7	31.8	9.9	68.75	261.7	-30.6	101.3	62.7	38.62	2.622 CC	
8,900.0	8,891.3	8,900.2	8,888.2	31.8	9.9	69.99	259.7	-29.8	101.3	62.6	38.67	2.620 ES, SF	
9,000.0	8,991.3	8,982.8	8,959.3	32.2	10.4	92.39	220.4	-15.1	114.0	74.2	39.82	2.863	
9,100.0	9,091.3	9,050.1	9,011.7	32.5	10.8	109.38	181.1	-0.3	153.2	112.8	40.34	3.797	
9,200.0	9,191.3	9,103.7	9,050.0	32.9	11.0	119.48	146.4	14.1	211.9	172.0	39.89	5.312	
9,300.0	9,291.3	9,148.1	9,079.2	33.2	11.2	125.01	116.8	29.5	282.3	243.0	39.34	7.176	
9,400.0	9,391.3	9,185.4	9,101.6	33.6	11.3	128.39	90.9	44.3	359.7	320.7	38.96	9.232	
9,500.0	9,491.3	9,218.0	9,119.3	33.9	11.5	130.85	67.0	57.7	441.7	402.9	38.78	11.391	
9,600.0	9,591.3	9,243.3	9,131.9	34.3	11.5	132.54	47.7	68.2	527.1	488.5	38.60	13.657	
9,700.0	9,691.3	9,263.0	9,141.0	34.6	11.6	133.75	32.3	76.4	615.0	576.5	38.46	15.989	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Offset Design WINDWARD FEDERAL PROJECT (BULLDOG 2432) - WINDWARD FEDERAL #6H - OWB - ACTUAL												Offset Site Error:	0.0 usft
Survey Program: 100-Standard Keeper 104, 8667-MWD+IFR1+MS												Offset Well Error:	3.0 usft
Reference	Offset	Semi Major Axis		Distance									
Measured Depth (usft)	Vertical Depth (usft)	Measured Depth (usft)	Vertical Depth (usft)	Reference (usft)	Offset (usft)	Highside Toolface (°)	Offset Wellbore Centre +N/-S (usft)	+E/-W (usft)	Between Centres (usft)	Between Ellipses (usft)	Minimum Separation (usft)	Separation Factor	Warning
9,800.0	9,791.3	9,287.7	9,151.5	35.0	11.7	135.14	12.4	86.6	704.7	666.1	38.56	18.273	
9,900.0	9,891.3	9,312.0	9,161.0	35.4	11.7	136.39	-7.6	96.6	795.9	757.2	38.74	20.543	
10,000.0	9,991.3	9,312.0	9,161.0	35.7	11.7	136.39	-7.6	96.6	888.3	849.7	38.57	23.030	
10,100.0	10,091.3	9,332.4	9,168.2	36.1	11.8	137.35	-24.7	105.0	981.6	942.7	38.83	25.280	
10,200.0	10,191.3	9,357.0	9,175.8	36.4	11.8	138.39	-45.7	115.4	1,076.1	1,036.9	39.18	27.465	
10,300.0	10,291.3	9,357.0	9,175.8	36.8	11.8	138.39	-45.7	115.4	1,170.7	1,131.5	39.22	29.851	
10,400.0	10,391.3	9,357.0	9,175.8	37.1	11.8	138.39	-45.7	115.4	1,266.2	1,226.9	39.32	32.205	
10,500.0	10,491.3	9,357.0	9,175.8	37.5	11.8	138.39	-45.7	115.4	1,362.3	1,322.9	39.46	34.525	
10,600.0	10,591.3	9,357.0	9,175.8	37.9	11.8	138.39	-45.7	115.4	1,459.0	1,419.4	39.64	36.809	
10,700.0	10,691.3	9,376.9	9,181.0	38.2	11.8	139.17	-62.9	123.8	1,555.5	1,515.4	40.06	38.827	
10,800.0	10,791.3	9,398.0	9,185.4	38.6	11.9	139.94	-81.5	132.8	1,653.0	1,612.5	40.51	40.808	
10,900.0	10,891.3	9,398.0	9,185.4	38.9	11.9	139.94	-81.5	132.8	1,750.2	1,709.4	40.73	42.965	
11,000.0	10,991.3	9,398.0	9,185.4	39.3	11.9	139.94	-81.5	132.8	1,847.7	1,806.7	40.98	45.084	
11,100.0	11,091.3	9,398.0	9,185.4	39.6	11.9	139.94	-81.5	132.8	1,945.4	1,904.1	41.25	47.166	

CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB=26' @ 3567.4usft (MCVAY 8)

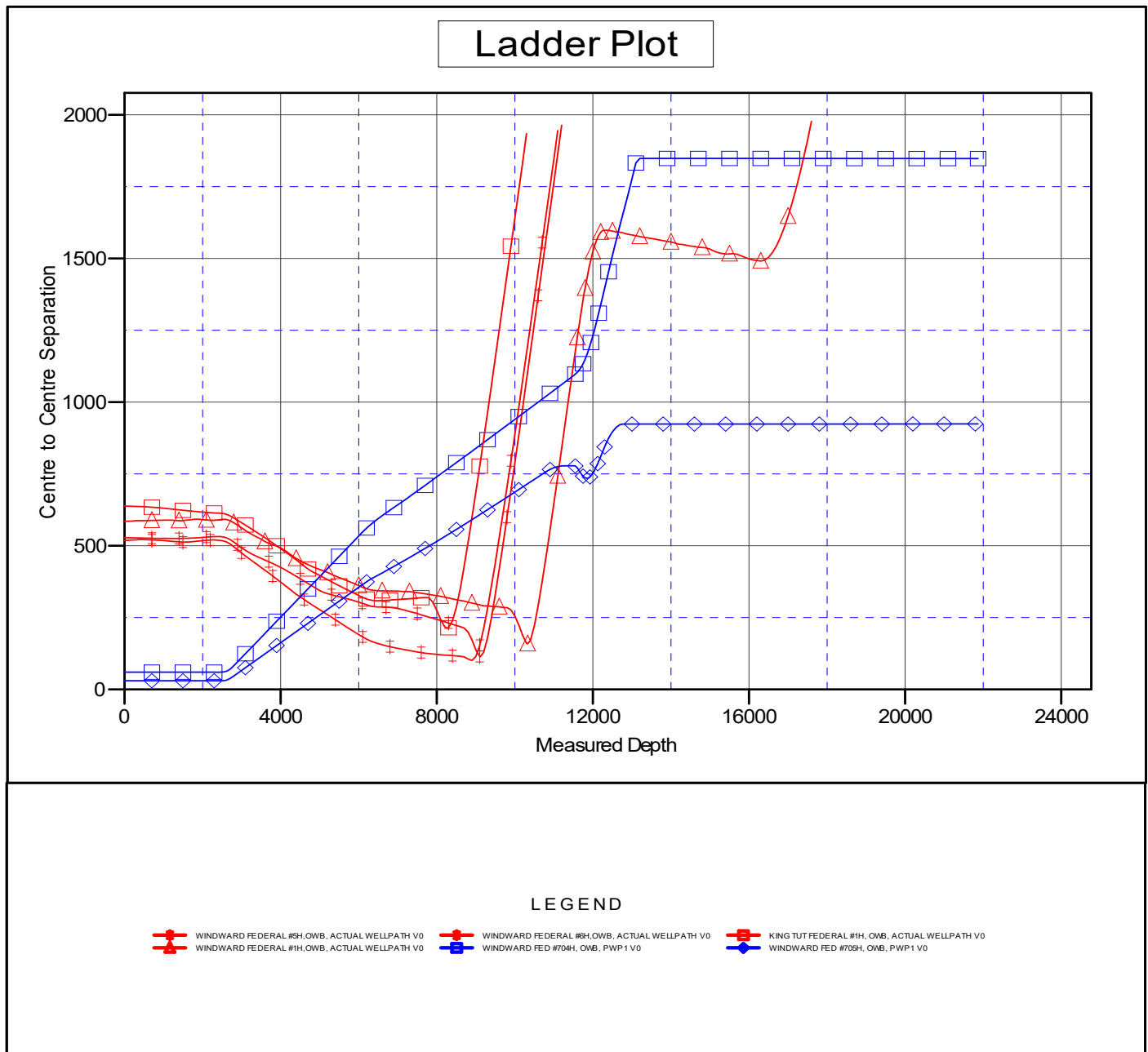
Offset Depths are relative to Offset Datum

Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: WINDWARD FED #706H

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30

Grid Convergence at Surface is: 0.33°



CC - Min centre to center distance or convergent point, SF - min separation factor, ES - min ellipse separation

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COMPASS 5000.15 Build 91E

Concho Resources LLC

Anticollision Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Reference Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site Error:	0.0 usft	North Reference:	Grid
Reference Well:	WINDWARD FED #706H	Survey Calculation Method:	Minimum Curvature
Well Error:	3.0 usft	Output errors are at	2.00 sigma
Reference Wellbore	OWB	Database:	edm
Reference Design:	PWP1	Offset TVD Reference:	Offset Datum

Reference Depths are relative to KB=26' @ 3567.4usft (MCVAY 8)

Offset Depths are relative to Offset Datum

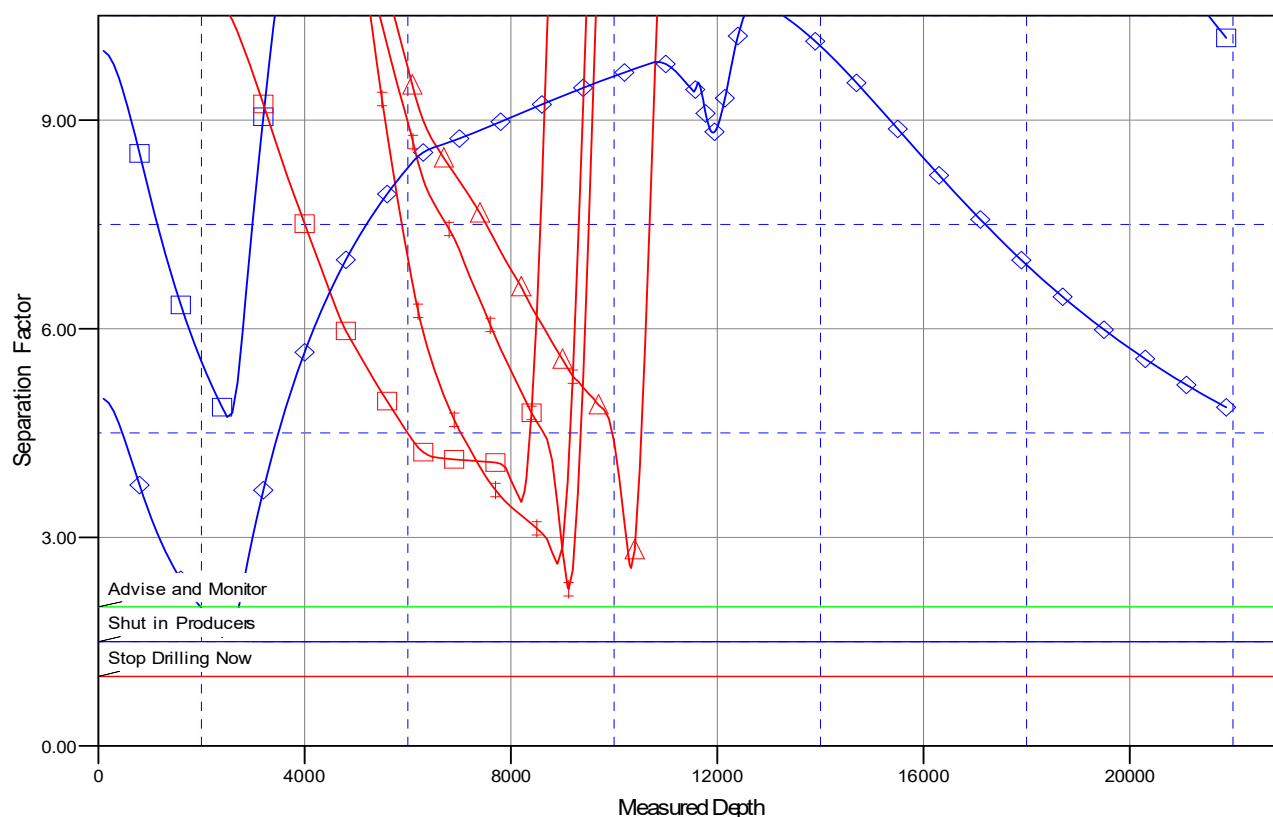
Central Meridian is 104° 20' 0.000 W

Coordinates are relative to: WINDWARD FED #706H

Coordinate System is US State Plane 1927 (Exact solution), New Mexico East 30

Grid Convergence at Surface is: 0.33°

Separation Factor Plot



LEGEND

WINDWARD FEDERAL #8H, OWB, ACTUAL WELLPATH V0
 WINDWARD FEDERAL #1H, OWB, ACTUAL WELLPATH V0
 WINDWARD FEDERAL #704H, OWB, PWP1 V0
 KING TUT FEDERAL #1H, OWB, ACTUAL WELLPATH V0
 WINDWARD FED #705H, OWB, PWP1 V0

DELAWARE BASIN EAST

BULLDOG PROSPECT (NM-E)

WINDWARD FEDERAL PROJECT (BULLDOG 2432)

WINDWARD FED #706H

OWB

Plan: PWP1

Standard Survey Report

11 December, 2020

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Well:	WINDWARD FED #706H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Project	BULLDOG PROSPECT (NM-E)		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Well	WINDWARD FED #706H			
Well Position	+N/-S	0.0 usft	Northing:	434,666.60 usft
	+E/-W	0.0 usft	Easting:	689,660.60 usft
Position Uncertainty		3.0 usft	Wellhead Elevation:	usft
			Latitude:	32° 11' 36.705 N
			Longitude:	103° 43' 12.822 W
			Ground Level:	3,541.4 usft

Wellbore	OWB
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	10/27/2020	6.69	59.87	47,525.51738349

Design	PWP1
---------------	------

Audit Notes:	
Version:	Phase: PLAN Tie On Depth: 0.0

Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.0	0.0	0.0	181.81

Survey Tool Program		Date	12/11/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
0.0	21,870.0	PWP1 (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction	

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
100.0	0.00	0.00	100.0	0.0	0.0	0.0	0.00	0.00	0.00
200.0	0.00	0.00	200.0	0.0	0.0	0.0	0.00	0.00	0.00
300.0	0.00	0.00	300.0	0.0	0.0	0.0	0.00	0.00	0.00
400.0	0.00	0.00	400.0	0.0	0.0	0.0	0.00	0.00	0.00
500.0	0.00	0.00	500.0	0.0	0.0	0.0	0.00	0.00	0.00
600.0	0.00	0.00	600.0	0.0	0.0	0.0	0.00	0.00	0.00
700.0	0.00	0.00	700.0	0.0	0.0	0.0	0.00	0.00	0.00
800.0	0.00	0.00	800.0	0.0	0.0	0.0	0.00	0.00	0.00
900.0	0.00	0.00	900.0	0.0	0.0	0.0	0.00	0.00	0.00
1,000.0	0.00	0.00	1,000.0	0.0	0.0	0.0	0.00	0.00	0.00
1,100.0	0.00	0.00	1,100.0	0.0	0.0	0.0	0.00	0.00	0.00
1,200.0	0.00	0.00	1,200.0	0.0	0.0	0.0	0.00	0.00	0.00
1,300.0	0.00	0.00	1,300.0	0.0	0.0	0.0	0.00	0.00	0.00
1,400.0	0.00	0.00	1,400.0	0.0	0.0	0.0	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Well:	WINDWARD FED #706H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
1,500.0	0.00	0.00	1,500.0	0.0	0.0	0.0	0.00	0.00	0.00
1,600.0	0.00	0.00	1,600.0	0.0	0.0	0.0	0.00	0.00	0.00
1,700.0	0.00	0.00	1,700.0	0.0	0.0	0.0	0.00	0.00	0.00
1,800.0	0.00	0.00	1,800.0	0.0	0.0	0.0	0.00	0.00	0.00
1,900.0	0.00	0.00	1,900.0	0.0	0.0	0.0	0.00	0.00	0.00
2,000.0	0.00	0.00	2,000.0	0.0	0.0	0.0	0.00	0.00	0.00
2,100.0	0.00	0.00	2,100.0	0.0	0.0	0.0	0.00	0.00	0.00
2,200.0	0.00	0.00	2,200.0	0.0	0.0	0.0	0.00	0.00	0.00
2,300.0	0.00	0.00	2,300.0	0.0	0.0	0.0	0.00	0.00	0.00
2,400.0	0.00	0.00	2,400.0	0.0	0.0	0.0	0.00	0.00	0.00
2,500.0	0.00	0.00	2,500.0	0.0	0.0	0.0	0.00	0.00	0.00
Start Build 2.00									
2,600.0	2.00	330.95	2,600.0	1.5	-0.8	-1.5	2.00	2.00	0.00
2,700.0	4.00	330.95	2,699.8	6.1	-3.4	-6.0	2.00	2.00	0.00
Start 3389.7 hold at 2700.0 MD									
2,800.0	4.00	330.95	2,799.6	12.2	-6.8	-12.0	0.00	0.00	0.00
2,900.0	4.00	330.95	2,899.4	18.3	-10.2	-18.0	0.00	0.00	0.00
3,000.0	4.00	330.95	2,999.1	24.4	-13.6	-24.0	0.00	0.00	0.00
3,100.0	4.00	330.95	3,098.9	30.5	-16.9	-29.9	0.00	0.00	0.00
3,200.0	4.00	330.95	3,198.6	36.6	-20.3	-35.9	0.00	0.00	0.00
3,300.0	4.00	330.95	3,298.4	42.7	-23.7	-41.9	0.00	0.00	0.00
3,400.0	4.00	330.95	3,398.1	48.8	-27.1	-47.9	0.00	0.00	0.00
3,500.0	4.00	330.95	3,497.9	54.9	-30.5	-53.9	0.00	0.00	0.00
3,600.0	4.00	330.95	3,597.6	61.0	-33.9	-59.9	0.00	0.00	0.00
3,700.0	4.00	330.95	3,697.4	67.1	-37.3	-65.9	0.00	0.00	0.00
3,800.0	4.00	330.95	3,797.2	73.2	-40.7	-71.9	0.00	0.00	0.00
3,900.0	4.00	330.95	3,896.9	79.3	-44.0	-77.8	0.00	0.00	0.00
4,000.0	4.00	330.95	3,996.7	85.4	-47.4	-83.8	0.00	0.00	0.00
4,100.0	4.00	330.95	4,096.4	91.5	-50.8	-89.8	0.00	0.00	0.00
4,200.0	4.00	330.95	4,196.2	97.6	-54.2	-95.8	0.00	0.00	0.00
4,300.0	4.00	330.95	4,295.9	103.7	-57.6	-101.8	0.00	0.00	0.00
4,400.0	4.00	330.95	4,395.7	109.8	-61.0	-107.8	0.00	0.00	0.00
4,500.0	4.00	330.95	4,495.5	115.9	-64.4	-113.8	0.00	0.00	0.00
4,600.0	4.00	330.95	4,595.2	122.0	-67.8	-119.8	0.00	0.00	0.00
4,700.0	4.00	330.95	4,695.0	128.1	-71.1	-125.7	0.00	0.00	0.00
4,800.0	4.00	330.95	4,794.7	134.2	-74.5	-131.7	0.00	0.00	0.00
4,900.0	4.00	330.95	4,894.5	140.3	-77.9	-137.7	0.00	0.00	0.00
5,000.0	4.00	330.95	4,994.2	146.3	-81.3	-143.7	0.00	0.00	0.00
5,100.0	4.00	330.95	5,094.0	152.4	-84.7	-149.7	0.00	0.00	0.00
5,200.0	4.00	330.95	5,193.7	158.5	-88.1	-155.7	0.00	0.00	0.00
5,300.0	4.00	330.95	5,293.5	164.6	-91.5	-161.7	0.00	0.00	0.00
5,400.0	4.00	330.95	5,393.3	170.7	-94.9	-167.7	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Well:	WINDWARD FED #706H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
5,500.0	4.00	330.95	5,493.0	176.8	-98.2	-173.6	0.00	0.00	0.00
5,600.0	4.00	330.95	5,592.8	182.9	-101.6	-179.6	0.00	0.00	0.00
5,700.0	4.00	330.95	5,692.5	189.0	-105.0	-185.6	0.00	0.00	0.00
5,800.0	4.00	330.95	5,792.3	195.1	-108.4	-191.6	0.00	0.00	0.00
5,900.0	4.00	330.95	5,892.0	201.2	-111.8	-197.6	0.00	0.00	0.00
6,000.0	4.00	330.95	5,991.8	207.3	-115.2	-203.6	0.00	0.00	0.00
6,089.7	4.00	330.95	6,081.3	212.8	-118.2	-209.0	0.00	0.00	0.00
Start Drop -1.00									
6,100.0	3.90	330.95	6,091.6	213.4	-118.6	-209.6	1.00	-1.00	0.00
6,200.0	2.90	330.95	6,191.4	218.6	-121.4	-214.6	1.00	-1.00	0.00
6,300.0	1.90	330.95	6,291.3	222.3	-123.5	-218.2	1.00	-1.00	0.00
6,400.0	0.90	330.95	6,391.3	224.4	-124.7	-220.3	1.00	-1.00	0.00
6,489.7	0.00	0.00	6,481.0	225.0	-125.0	-220.9	1.00	-1.00	32.38
Start 5045.5 hold at 6489.7 MD									
6,500.0	0.00	0.00	6,491.3	225.0	-125.0	-220.9	0.00	0.00	0.00
6,600.0	0.00	0.00	6,591.3	225.0	-125.0	-220.9	0.00	0.00	0.00
6,700.0	0.00	0.00	6,691.3	225.0	-125.0	-220.9	0.00	0.00	0.00
6,800.0	0.00	0.00	6,791.3	225.0	-125.0	-220.9	0.00	0.00	0.00
6,900.0	0.00	0.00	6,891.3	225.0	-125.0	-220.9	0.00	0.00	0.00
7,000.0	0.00	0.00	6,991.3	225.0	-125.0	-220.9	0.00	0.00	0.00
7,100.0	0.00	0.00	7,091.3	225.0	-125.0	-220.9	0.00	0.00	0.00
7,200.0	0.00	0.00	7,191.3	225.0	-125.0	-220.9	0.00	0.00	0.00
7,300.0	0.00	0.00	7,291.3	225.0	-125.0	-220.9	0.00	0.00	0.00
7,400.0	0.00	0.00	7,391.3	225.0	-125.0	-220.9	0.00	0.00	0.00
7,500.0	0.00	0.00	7,491.3	225.0	-125.0	-220.9	0.00	0.00	0.00
7,600.0	0.00	0.00	7,591.3	225.0	-125.0	-220.9	0.00	0.00	0.00
7,700.0	0.00	0.00	7,691.3	225.0	-125.0	-220.9	0.00	0.00	0.00
7,800.0	0.00	0.00	7,791.3	225.0	-125.0	-220.9	0.00	0.00	0.00
7,900.0	0.00	0.00	7,891.3	225.0	-125.0	-220.9	0.00	0.00	0.00
8,000.0	0.00	0.00	7,991.3	225.0	-125.0	-220.9	0.00	0.00	0.00
8,100.0	0.00	0.00	8,091.3	225.0	-125.0	-220.9	0.00	0.00	0.00
8,200.0	0.00	0.00	8,191.3	225.0	-125.0	-220.9	0.00	0.00	0.00
8,300.0	0.00	0.00	8,291.3	225.0	-125.0	-220.9	0.00	0.00	0.00
8,400.0	0.00	0.00	8,391.3	225.0	-125.0	-220.9	0.00	0.00	0.00
8,500.0	0.00	0.00	8,491.3	225.0	-125.0	-220.9	0.00	0.00	0.00
8,600.0	0.00	0.00	8,591.3	225.0	-125.0	-220.9	0.00	0.00	0.00
8,700.0	0.00	0.00	8,691.3	225.0	-125.0	-220.9	0.00	0.00	0.00
8,800.0	0.00	0.00	8,791.3	225.0	-125.0	-220.9	0.00	0.00	0.00
8,900.0	0.00	0.00	8,891.3	225.0	-125.0	-220.9	0.00	0.00	0.00
9,000.0	0.00	0.00	8,991.3	225.0	-125.0	-220.9	0.00	0.00	0.00
9,100.0	0.00	0.00	9,091.3	225.0	-125.0	-220.9	0.00	0.00	0.00
9,200.0	0.00	0.00	9,191.3	225.0	-125.0	-220.9	0.00	0.00	0.00
9,300.0	0.00	0.00	9,291.3	225.0	-125.0	-220.9	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Well:	WINDWARD FED #706H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,400.0	0.00	0.00	9,391.3	225.0	-125.0	-220.9	0.00	0.00	0.00
9,500.0	0.00	0.00	9,491.3	225.0	-125.0	-220.9	0.00	0.00	0.00
9,600.0	0.00	0.00	9,591.3	225.0	-125.0	-220.9	0.00	0.00	0.00
9,700.0	0.00	0.00	9,691.3	225.0	-125.0	-220.9	0.00	0.00	0.00
9,800.0	0.00	0.00	9,791.3	225.0	-125.0	-220.9	0.00	0.00	0.00
9,900.0	0.00	0.00	9,891.3	225.0	-125.0	-220.9	0.00	0.00	0.00
10,000.0	0.00	0.00	9,991.3	225.0	-125.0	-220.9	0.00	0.00	0.00
10,100.0	0.00	0.00	10,091.3	225.0	-125.0	-220.9	0.00	0.00	0.00
10,200.0	0.00	0.00	10,191.3	225.0	-125.0	-220.9	0.00	0.00	0.00
10,300.0	0.00	0.00	10,291.3	225.0	-125.0	-220.9	0.00	0.00	0.00
10,400.0	0.00	0.00	10,391.3	225.0	-125.0	-220.9	0.00	0.00	0.00
10,500.0	0.00	0.00	10,491.3	225.0	-125.0	-220.9	0.00	0.00	0.00
10,600.0	0.00	0.00	10,591.3	225.0	-125.0	-220.9	0.00	0.00	0.00
10,700.0	0.00	0.00	10,691.3	225.0	-125.0	-220.9	0.00	0.00	0.00
10,800.0	0.00	0.00	10,791.3	225.0	-125.0	-220.9	0.00	0.00	0.00
10,900.0	0.00	0.00	10,891.3	225.0	-125.0	-220.9	0.00	0.00	0.00
11,000.0	0.00	0.00	10,991.3	225.0	-125.0	-220.9	0.00	0.00	0.00
11,100.0	0.00	0.00	11,091.3	225.0	-125.0	-220.9	0.00	0.00	0.00
11,200.0	0.00	0.00	11,191.3	225.0	-125.0	-220.9	0.00	0.00	0.00
11,300.0	0.00	0.00	11,291.3	225.0	-125.0	-220.9	0.00	0.00	0.00
11,400.0	0.00	0.00	11,391.3	225.0	-125.0	-220.9	0.00	0.00	0.00
11,500.0	0.00	0.00	11,491.3	225.0	-125.0	-220.9	0.00	0.00	0.00
11,535.2	0.00	0.00	11,526.5	225.0	-125.0	-220.9	0.00	0.00	0.00
Start Build 12.00									
11,600.0	7.77	199.45	11,591.1	220.9	-126.5	-216.8	12.00	12.00	0.00
11,700.0	19.77	199.45	11,688.0	198.5	-134.4	-194.1	12.00	12.00	0.00
11,800.0	31.77	199.45	11,777.9	157.5	-148.8	-152.8	12.00	12.00	0.00
11,900.0	43.77	199.45	11,856.8	99.9	-169.2	-94.5	12.00	12.00	0.00
12,000.0	55.77	199.45	11,921.3	28.0	-194.6	-21.9	12.00	12.00	0.00
12,100.0	67.77	199.45	11,968.5	-54.9	-223.8	61.9	12.00	12.00	0.00
12,200.0	79.77	199.45	11,996.4	-145.3	-255.8	153.3	12.00	12.00	0.00
12,285.7	90.06	199.45	12,004.0	-225.7	-284.2	234.6	12.00	12.00	0.00
Start DLS 4.00 TFO -89.99									
12,300.0	90.06	198.88	12,003.9	-239.2	-288.8	248.2	4.00	0.00	-4.00
12,400.0	90.06	194.88	12,003.8	-334.8	-317.9	344.7	4.00	0.00	-4.00
12,500.0	90.06	190.88	12,003.7	-432.3	-340.2	442.8	4.00	0.00	-4.00
12,600.0	90.06	186.88	12,003.6	-531.1	-355.6	542.1	4.00	0.00	-4.00
12,700.0	90.06	182.88	12,003.5	-630.7	-364.1	641.9	4.00	0.00	-4.00
12,780.8	90.06	179.65	12,003.4	-711.4	-365.9	722.6	4.00	0.00	-4.00
Start 9089.2 hold at 12780.8 MD									
12,800.0	90.06	179.65	12,003.4	-730.7	-365.8	741.9	0.00	0.00	0.00
12,900.0	90.06	179.65	12,003.3	-830.7	-365.1	841.8	0.00	0.00	0.00
13,000.0	90.06	179.65	12,003.2	-930.7	-364.5	941.7	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Well:	WINDWARD FED #706H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,100.0	90.06	179.65	12,003.1	-1,030.7	-363.9	1,041.6	0.00	0.00	0.00
13,200.0	90.06	179.65	12,003.0	-1,130.7	-363.3	1,141.6	0.00	0.00	0.00
13,300.0	90.06	179.65	12,002.9	-1,230.6	-362.7	1,241.5	0.00	0.00	0.00
13,400.0	90.06	179.65	12,002.8	-1,330.6	-362.1	1,341.4	0.00	0.00	0.00
13,500.0	90.06	179.65	12,002.7	-1,430.6	-361.5	1,441.4	0.00	0.00	0.00
13,600.0	90.06	179.65	12,002.6	-1,530.6	-360.9	1,541.3	0.00	0.00	0.00
13,700.0	90.06	179.65	12,002.5	-1,630.6	-360.2	1,641.2	0.00	0.00	0.00
13,800.0	90.06	179.65	12,002.4	-1,730.6	-359.6	1,741.1	0.00	0.00	0.00
13,900.0	90.06	179.65	12,002.3	-1,830.6	-359.0	1,841.1	0.00	0.00	0.00
14,000.0	90.06	179.65	12,002.2	-1,930.6	-358.4	1,941.0	0.00	0.00	0.00
14,100.0	90.06	179.65	12,002.1	-2,030.6	-357.8	2,040.9	0.00	0.00	0.00
14,200.0	90.06	179.65	12,002.0	-2,130.6	-357.2	2,140.9	0.00	0.00	0.00
14,300.0	90.06	179.65	12,001.9	-2,230.6	-356.6	2,240.8	0.00	0.00	0.00
14,400.0	90.06	179.65	12,001.8	-2,330.6	-356.0	2,340.7	0.00	0.00	0.00
14,500.0	90.06	179.65	12,001.7	-2,430.6	-355.3	2,440.6	0.00	0.00	0.00
14,600.0	90.06	179.65	12,001.6	-2,530.6	-354.7	2,540.6	0.00	0.00	0.00
14,700.0	90.06	179.65	12,001.4	-2,630.6	-354.1	2,640.5	0.00	0.00	0.00
14,800.0	90.06	179.65	12,001.3	-2,730.6	-353.5	2,740.4	0.00	0.00	0.00
14,900.0	90.06	179.65	12,001.2	-2,830.6	-352.9	2,840.4	0.00	0.00	0.00
15,000.0	90.06	179.65	12,001.1	-2,930.6	-352.3	2,940.3	0.00	0.00	0.00
15,100.0	90.06	179.65	12,001.0	-3,030.6	-351.7	3,040.2	0.00	0.00	0.00
15,200.0	90.06	179.65	12,000.9	-3,130.6	-351.1	3,140.2	0.00	0.00	0.00
15,300.0	90.06	179.65	12,000.8	-3,230.6	-350.4	3,240.1	0.00	0.00	0.00
15,400.0	90.06	179.65	12,000.7	-3,330.6	-349.8	3,340.0	0.00	0.00	0.00
15,500.0	90.06	179.65	12,000.6	-3,430.6	-349.2	3,439.9	0.00	0.00	0.00
15,600.0	90.06	179.65	12,000.5	-3,530.6	-348.6	3,539.9	0.00	0.00	0.00
15,700.0	90.06	179.65	12,000.4	-3,630.6	-348.0	3,639.8	0.00	0.00	0.00
15,800.0	90.06	179.65	12,000.3	-3,730.6	-347.4	3,739.7	0.00	0.00	0.00
15,900.0	90.06	179.65	12,000.2	-3,830.6	-346.8	3,839.7	0.00	0.00	0.00
16,000.0	90.06	179.65	12,000.1	-3,930.6	-346.2	3,939.6	0.00	0.00	0.00
16,100.0	90.06	179.65	12,000.0	-4,030.6	-345.5	4,039.5	0.00	0.00	0.00
16,200.0	90.06	179.65	11,999.9	-4,130.6	-344.9	4,139.4	0.00	0.00	0.00
16,300.0	90.06	179.65	11,999.8	-4,230.6	-344.3	4,239.4	0.00	0.00	0.00
16,400.0	90.06	179.65	11,999.7	-4,330.6	-343.7	4,339.3	0.00	0.00	0.00
16,500.0	90.06	179.65	11,999.6	-4,430.6	-343.1	4,439.2	0.00	0.00	0.00
16,600.0	90.06	179.65	11,999.5	-4,530.6	-342.5	4,539.2	0.00	0.00	0.00
16,700.0	90.06	179.65	11,999.4	-4,630.6	-341.9	4,639.1	0.00	0.00	0.00
16,800.0	90.06	179.65	11,999.3	-4,730.6	-341.3	4,739.0	0.00	0.00	0.00
16,900.0	90.06	179.65	11,999.2	-4,830.6	-340.6	4,838.9	0.00	0.00	0.00
17,000.0	90.06	179.65	11,999.1	-4,930.6	-340.0	4,938.9	0.00	0.00	0.00
17,100.0	90.06	179.65	11,999.0	-5,030.6	-339.4	5,038.8	0.00	0.00	0.00
17,200.0	90.06	179.65	11,998.9	-5,130.6	-338.8	5,138.7	0.00	0.00	0.00
17,300.0	90.06	179.65	11,998.7	-5,230.6	-338.2	5,238.7	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Well:	WINDWARD FED #706H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
17,400.0	90.06	179.65	11,998.6	-5,330.6	-337.6	5,338.6	0.00	0.00	0.00
17,500.0	90.06	179.65	11,998.5	-5,430.6	-337.0	5,438.5	0.00	0.00	0.00
17,600.0	90.06	179.65	11,998.4	-5,530.6	-336.4	5,538.4	0.00	0.00	0.00
17,700.0	90.06	179.65	11,998.3	-5,630.6	-335.7	5,638.4	0.00	0.00	0.00
17,800.0	90.06	179.65	11,998.2	-5,730.6	-335.1	5,738.3	0.00	0.00	0.00
17,900.0	90.06	179.65	11,998.1	-5,830.6	-334.5	5,838.2	0.00	0.00	0.00
18,000.0	90.06	179.65	11,998.0	-5,930.6	-333.9	5,938.2	0.00	0.00	0.00
18,100.0	90.06	179.65	11,997.9	-6,030.6	-333.3	6,038.1	0.00	0.00	0.00
18,200.0	90.06	179.65	11,997.8	-6,130.6	-332.7	6,138.0	0.00	0.00	0.00
18,300.0	90.06	179.65	11,997.7	-6,230.6	-332.1	6,237.9	0.00	0.00	0.00
18,400.0	90.06	179.65	11,997.6	-6,330.5	-331.5	6,337.9	0.00	0.00	0.00
18,500.0	90.06	179.65	11,997.5	-6,430.5	-330.8	6,437.8	0.00	0.00	0.00
18,600.0	90.06	179.65	11,997.4	-6,530.5	-330.2	6,537.7	0.00	0.00	0.00
18,700.0	90.06	179.65	11,997.3	-6,630.5	-329.6	6,637.7	0.00	0.00	0.00
18,800.0	90.06	179.65	11,997.2	-6,730.5	-329.0	6,737.6	0.00	0.00	0.00
18,900.0	90.06	179.65	11,997.1	-6,830.5	-328.4	6,837.5	0.00	0.00	0.00
19,000.0	90.06	179.65	11,997.0	-6,930.5	-327.8	6,937.4	0.00	0.00	0.00
19,100.0	90.06	179.65	11,996.9	-7,030.5	-327.2	7,037.4	0.00	0.00	0.00
19,200.0	90.06	179.65	11,996.8	-7,130.5	-326.6	7,137.3	0.00	0.00	0.00
19,300.0	90.06	179.65	11,996.7	-7,230.5	-325.9	7,237.2	0.00	0.00	0.00
19,400.0	90.06	179.65	11,996.6	-7,330.5	-325.3	7,337.2	0.00	0.00	0.00
19,500.0	90.06	179.65	11,996.5	-7,430.5	-324.7	7,437.1	0.00	0.00	0.00
19,600.0	90.06	179.65	11,996.4	-7,530.5	-324.1	7,537.0	0.00	0.00	0.00
19,700.0	90.06	179.65	11,996.3	-7,630.5	-323.5	7,636.9	0.00	0.00	0.00
19,800.0	90.06	179.65	11,996.2	-7,730.5	-322.9	7,736.9	0.00	0.00	0.00
19,900.0	90.06	179.65	11,996.0	-7,830.5	-322.3	7,836.8	0.00	0.00	0.00
20,000.0	90.06	179.65	11,995.9	-7,930.5	-321.7	7,936.7	0.00	0.00	0.00
20,100.0	90.06	179.65	11,995.8	-8,030.5	-321.0	8,036.7	0.00	0.00	0.00
20,200.0	90.06	179.65	11,995.7	-8,130.5	-320.4	8,136.6	0.00	0.00	0.00
20,300.0	90.06	179.65	11,995.6	-8,230.5	-319.8	8,236.5	0.00	0.00	0.00
20,400.0	90.06	179.65	11,995.5	-8,330.5	-319.2	8,336.4	0.00	0.00	0.00
20,500.0	90.06	179.65	11,995.4	-8,430.5	-318.6	8,436.4	0.00	0.00	0.00
20,600.0	90.06	179.65	11,995.3	-8,530.5	-318.0	8,536.3	0.00	0.00	0.00
20,700.0	90.06	179.65	11,995.2	-8,630.5	-317.4	8,636.2	0.00	0.00	0.00
20,800.0	90.06	179.65	11,995.1	-8,730.5	-316.8	8,736.2	0.00	0.00	0.00
20,900.0	90.06	179.65	11,995.0	-8,830.5	-316.1	8,836.1	0.00	0.00	0.00
21,000.0	90.06	179.65	11,994.9	-8,930.5	-315.5	8,936.0	0.00	0.00	0.00
21,100.0	90.06	179.65	11,994.8	-9,030.5	-314.9	9,035.9	0.00	0.00	0.00
21,200.0	90.06	179.65	11,994.7	-9,130.5	-314.3	9,135.9	0.00	0.00	0.00
21,300.0	90.06	179.65	11,994.6	-9,230.5	-313.7	9,235.8	0.00	0.00	0.00
21,400.0	90.06	179.65	11,994.5	-9,330.5	-313.1	9,335.7	0.00	0.00	0.00
21,500.0	90.06	179.65	11,994.4	-9,430.5	-312.5	9,435.7	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well WINDWARD FED #706H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Site:	WINDWARD FEDERAL PROJECT (BULLDOG 2432)	MD Reference:	KB=26' @ 3567.4usft (MCVAY 8)
Well:	WINDWARD FED #706H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	PWP1	Database:	edm

Planned Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
21,600.0	90.06	179.65	11,994.3	-9,530.5	-311.9	9,535.6	0.00	0.00	0.00
21,700.0	90.06	179.65	11,994.2	-9,630.5	-311.2	9,635.5	0.00	0.00	0.00
21,800.0	90.06	179.65	11,994.1	-9,730.5	-310.6	9,735.4	0.00	0.00	0.00
21,870.0	90.06	179.65	11,994.0	-9,800.5	-310.2	9,805.4	0.00	0.00	0.00
TD at 21870.0									

Design Targets

Target Name	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
- hit/miss target									
- Shape									
LTP (WINDWARD FE	0.00	0.01	11,994.0	-9,750.5	-310.5	424,916.10	689,350.10	32° 10' 0.233 N	103° 43' 17.081 W
- plan misses target center by 20.0usft at 21800.0usft MD (11994.1 TVD, -9730.5 N, -310.6 E)									
- Point									
PBHL (WINDWARD F	0.06	359.65	11,994.0	-9,800.5	-310.2	424,866.10	689,350.40	32° 9' 59.738 N	103° 43' 17.080 W
- plan hits target center									
- Rectangle (sides W100.0 H10,410.0 D20.0)									
FTP (WINDWARD FE	0.00	0.00	12,004.0	607.3	-373.7	435,273.90	689,286.90	32° 11' 42.736 N	103° 43' 17.130 W
- plan misses target center by 551.3usft at 11800.0usft MD (11777.9 TVD, 157.5 N, -148.8 E)									
- Circle (radius 50.0)									

Plan Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
2500	2500	0	0	Start Build 2.00
2700	2700	6	-3	Start 3389.7 hold at 2700.0 MD
6090	6081	213	-118	Start Drop -1.00
6490	6481	225	-125	Start 5045.5 hold at 6489.7 MD
11,535	11,527	225	-125	Start Build 12.00
12,286	12,004	-226	-284	Start DLS 4.00 TFO -89.99
12,781	12,003	-711	-366	Start 9089.2 hold at 12780.8 MD
21,870	11,994	-9801	-310	TD at 21870.0

Checked By: _____ Approved By: _____ Date: _____



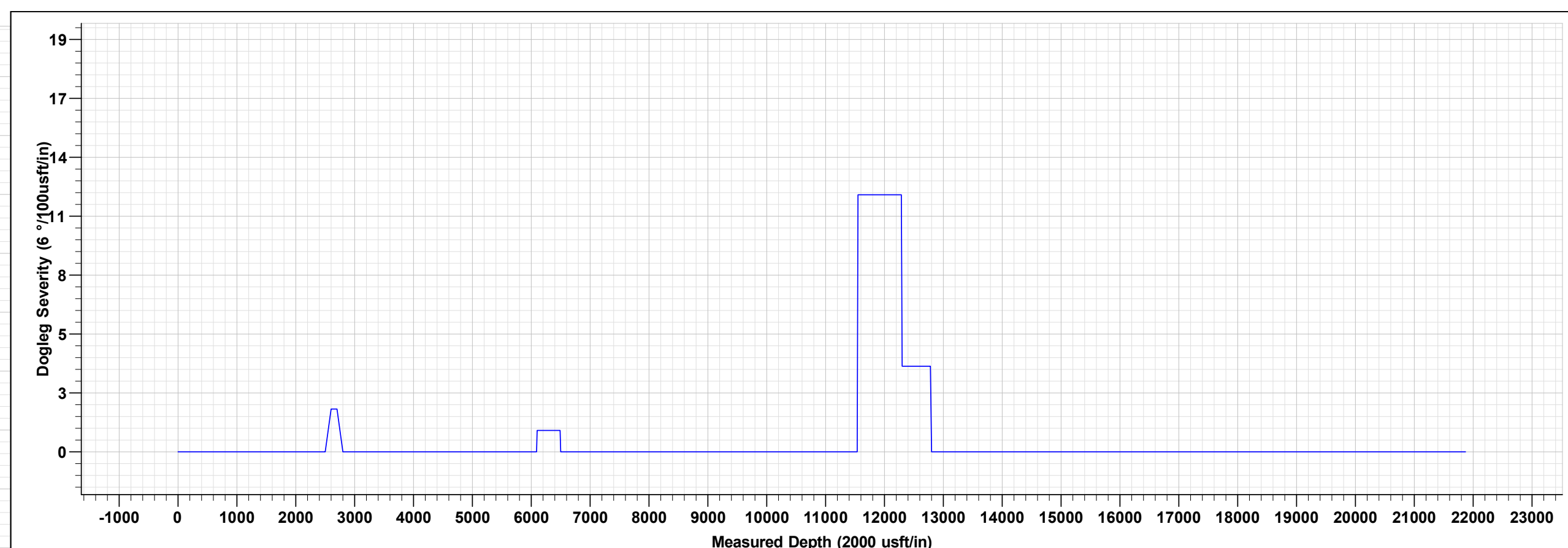
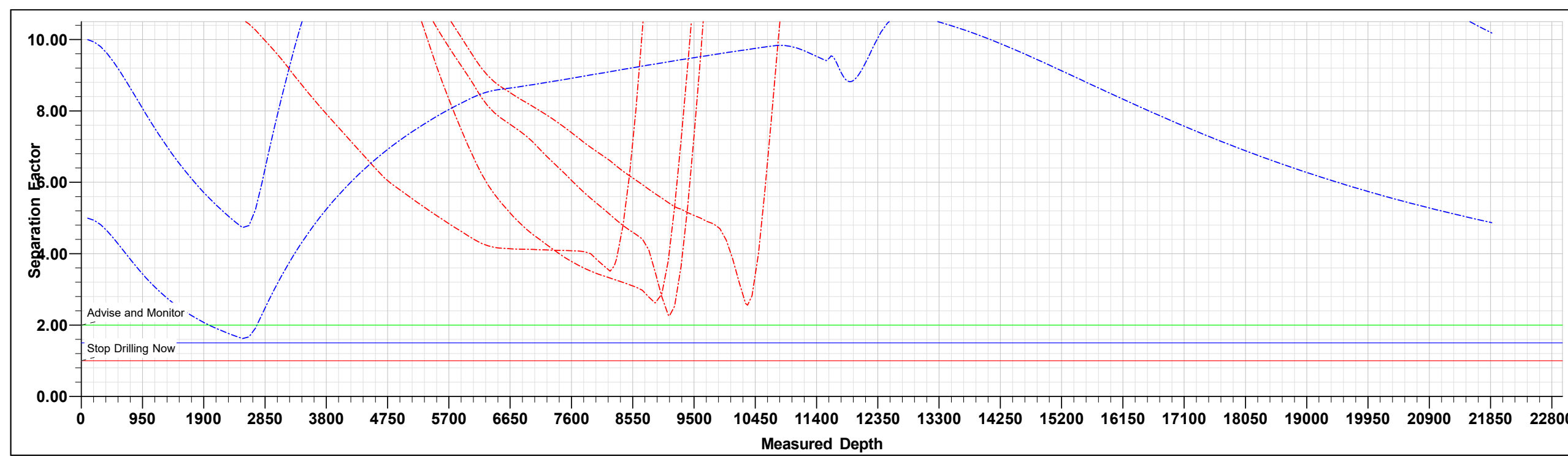
Project: BULLDOG PROSPECT (NM-E)
Site: WINDWARD FEDERAL PROJECT (BULLDOG 2432)
Well: WINDWARD FED #706H
Wellbore: OWB
Design: PWP1
GL: 3541.4
KB=26' @ 3567.4usft (MCVAY 8)

WELL DETAILS: WINDWARD FED #706H

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.0	0.0	434666.60	689660.60	32° 11' 36.705 N	103° 43' 12.822 W

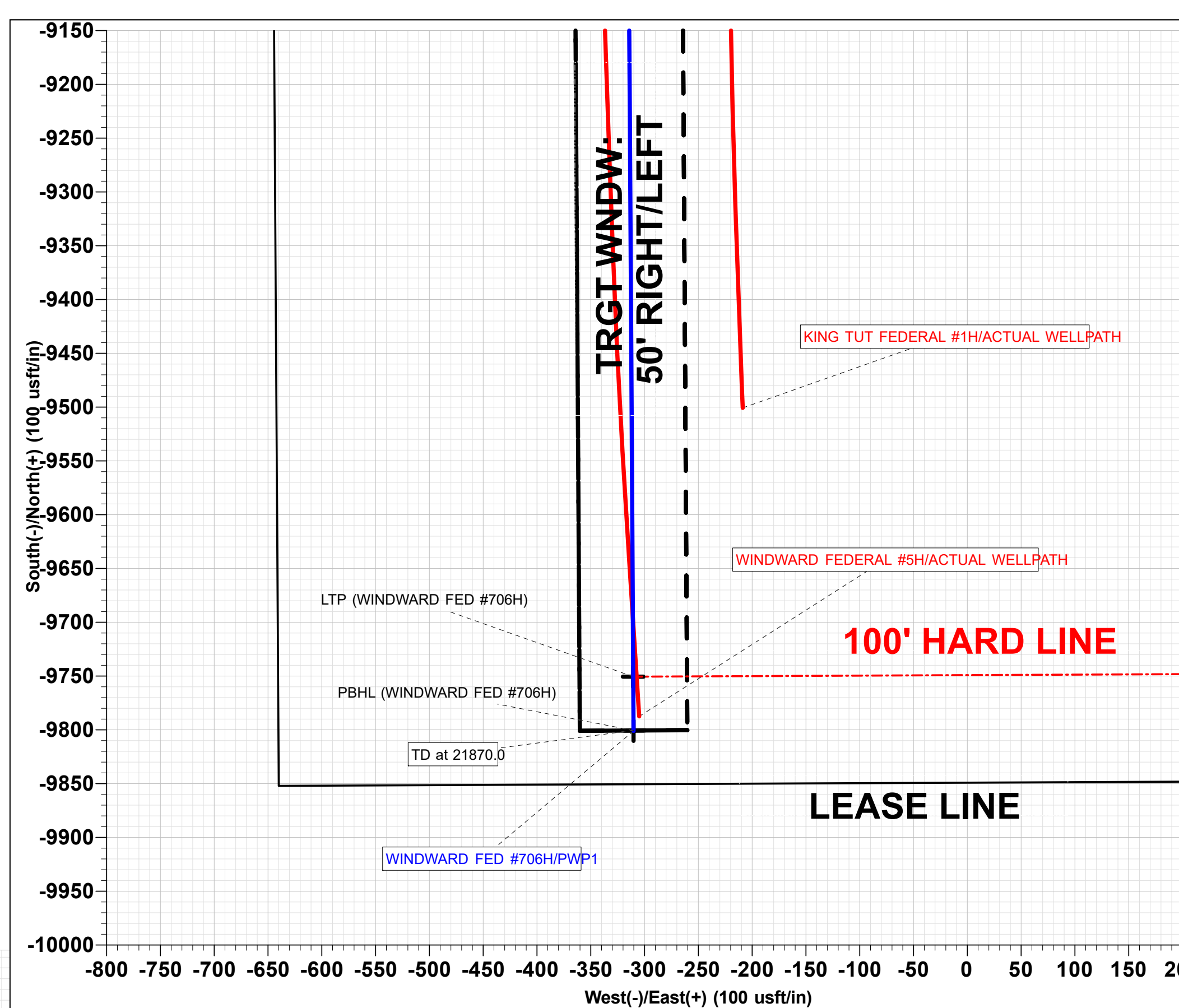
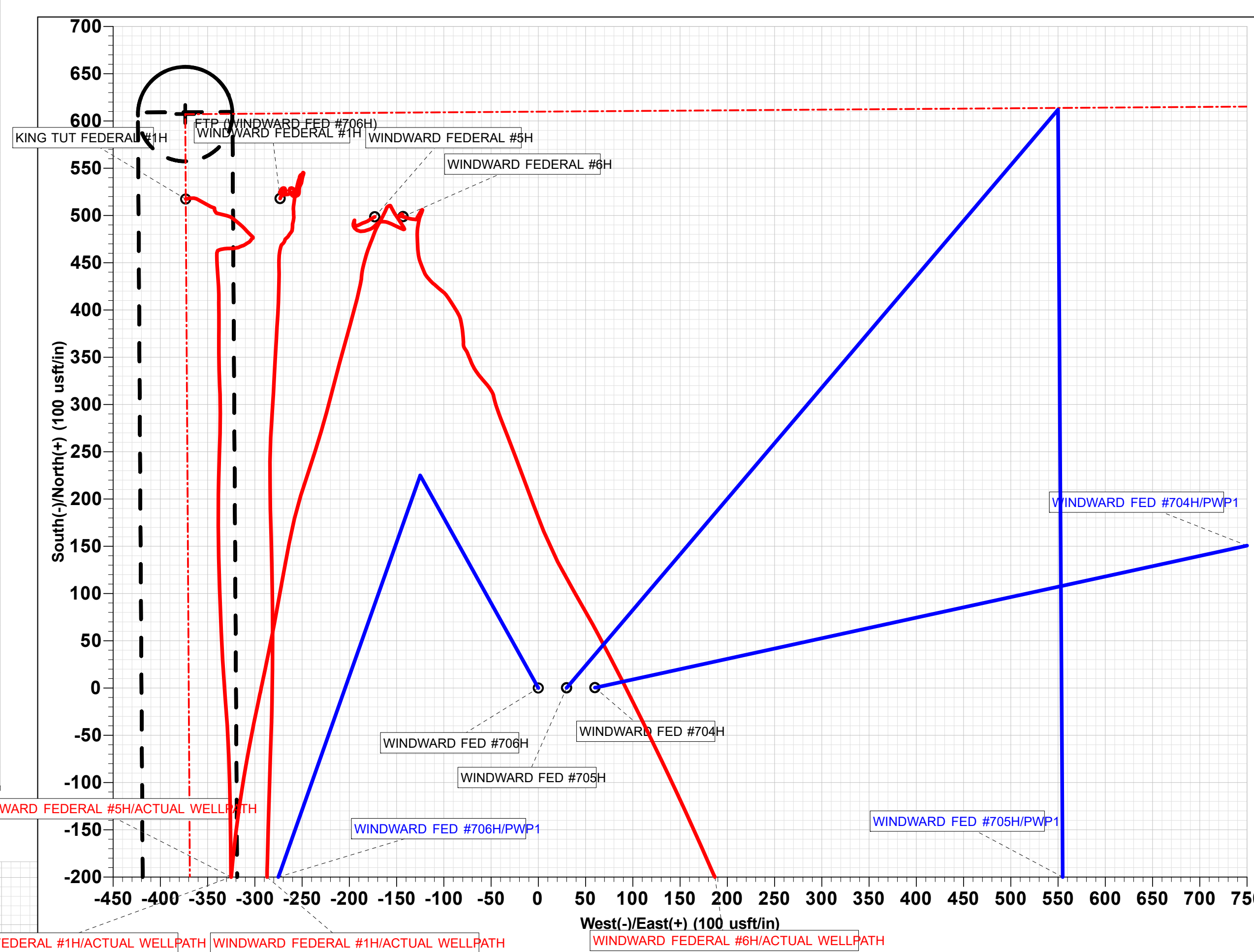
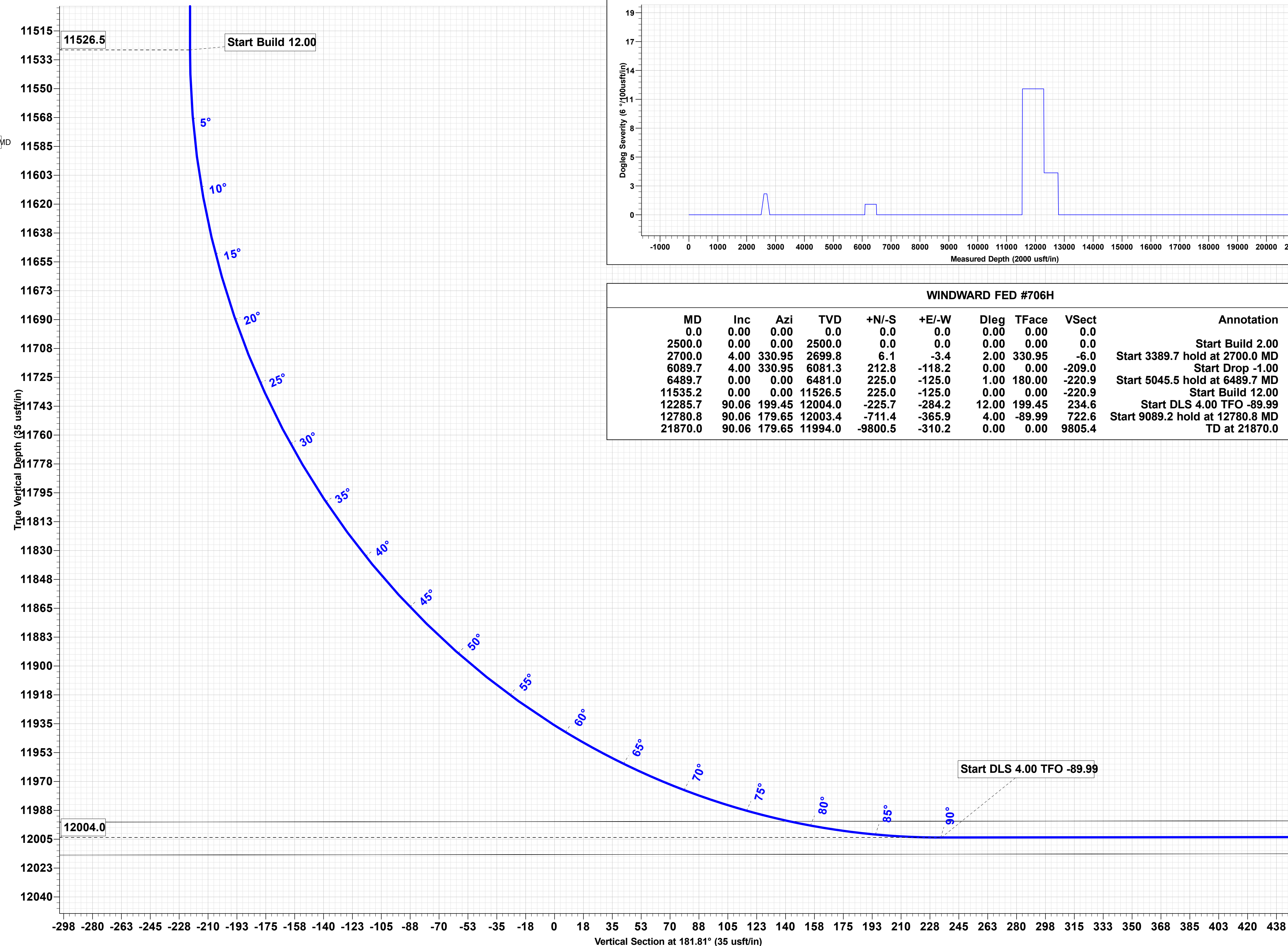
DESIGN TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
LTP (WINDWARD FED #706H)	11994.0	-9750.5	-310.5	424916.10	689350.10	32° 10' 0.233 N	103° 43' 17.081 W
PBHL (WINDWARD FED #706H)	11994.0	-9800.5	-310.2	424866.10	689350.40	32° 9' 59.738 N	103° 43' 17.080 W
FTP (WINDWARD FED #706H)	12004.0	607.3	-373.7	435273.90	689286.90	32° 11' 42.736 N	103° 43' 17.130 W

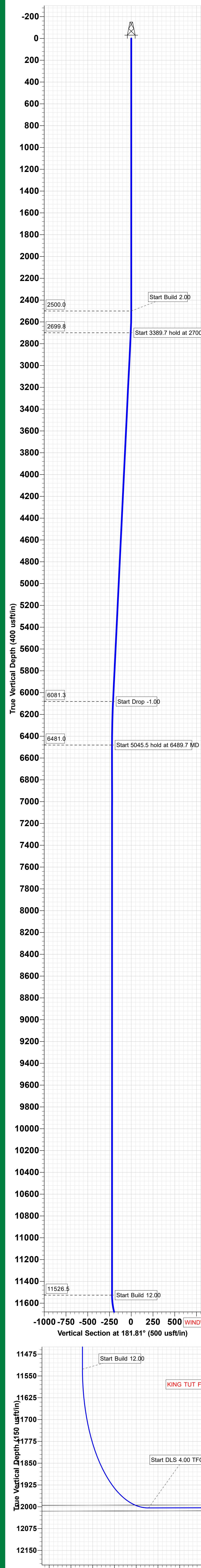
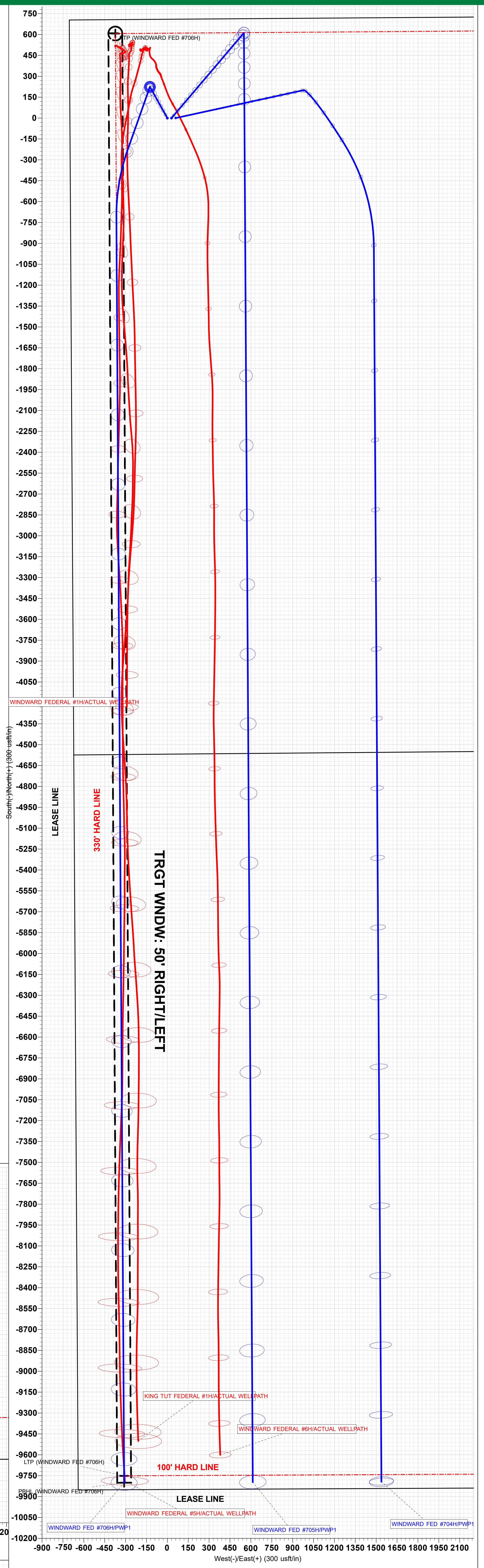


WINDWARD FED #706H

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	Vsect	Annotation
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	Start Build 2.00
2500.0	0.00	0.00	2500.0	0.0	0.0	0.00	0.00	0.0	Start 3389.7 hold at 2700.0 MD
2700.0	4.00	330.95	2699.8	6.1	-3.4	2.00	330.95	-6.0	Start Drop -1.00
6089.7	4.00	330.95	6081.3	212.8	-118.2	0.00	0.00	-209.0	Start 5045.5 hold at 6489.7 MD
6489.7	0.00	0.00	6481.0	225.0	-125.0	1.00	180.00	-220.9	Start Build 12.00
11535.2	0.00	0.00	11526.5	225.0	-125.0	0.00	0.00	-220.9	Start DLS 4.00 TFO -89.99
12285.7	90.06	199.45	12004.0	-225.7	-284.2	12.00	199.45	234.6	Start 9089.2 hold at 12780.8 MD
12780.8	90.06	179.65	12003.4	-711.4	-365.9	4.00	-89.99	722.6	TD at 21870.0
21870.0	90.06	179.65	11994.0	-9800.5	-310.2	0.00	0.00	9805.4	

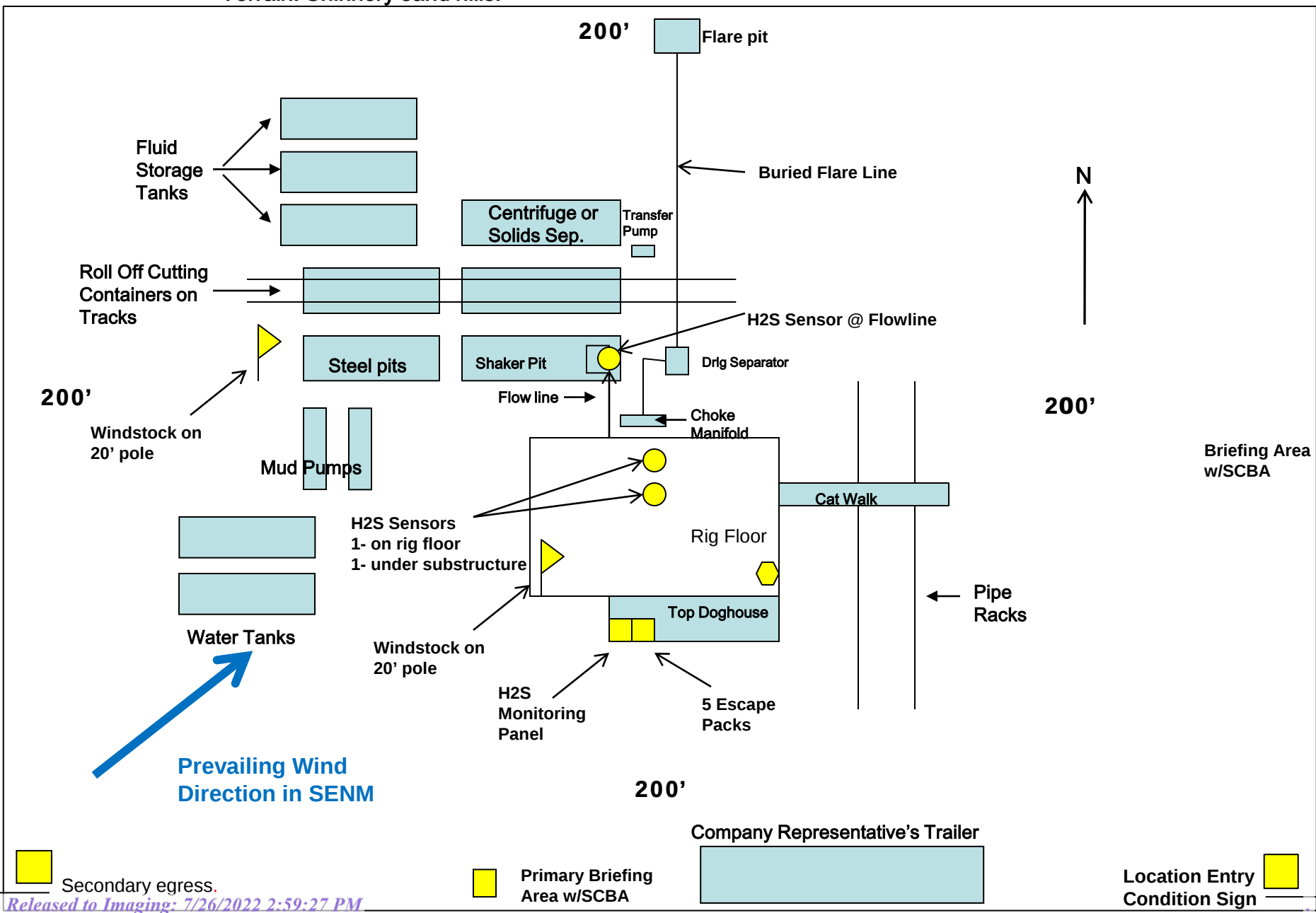


TRGT WNDW: 10'
ABOVE/BELOW



COG Operating LLC
H₂S Equipment Schematic
Terrain: Shinnery sand hills.

Well pad will be 400' x 400'
with cellar in center of pad



COG OPERATING LLC
HYDROGEN SULFIDE DRILLING OPERATIONS PLAN

1. HYDROGEN SULFIDE TRAINING

All personnel, whether regularly assigned, contracted, or employed on an unscheduled basis, will receive training from a qualified instructor in the following areas prior to commencing drilling operations on this well:

- a. The hazards and characteristics of hydrogen sulfide (H₂S).
- b. The proper use and maintenance of personal protective equipment and life support systems.
- c. The proper use of H₂S detectors, alarms, warning systems, briefing areas, evacuation procedures, and prevailing winds.
- d. The proper techniques for first aid and rescue procedures.

In addition, supervisory personnel will be trained in the following areas:

- a. The effects of H₂S on metal components. If high tensile tubulars are to be used, personnel will be trained in their special maintenance requirements.
- b. Corrective action and shut-in procedures when drilling or reworking a well and blowout prevention and well control procedures.
- c. The contents and requirements of the H₂S Drilling Operations Plan and the Public Protection Plan.

There will be an initial training session just prior to encountering a known or probable H₂S zone (within 3 days or 500 feet) and weekly H₂S and well control drills for all personnel in each crew. The initial training session shall include a review of the site specific H₂S Drilling Operations Plan and the Public Protection Plan. This plan shall be available at the well site. All personnel will be required to carry documentation that they have received the proper training.

2. H₂S SAFETY EQUIPMENT AND SYSTEMS

Note: All H₂S safety equipment and systems will be installed, tested, and operational when drilling reaches a depth of 500 feet above, or three days prior to penetrating the first zone containing or reasonably expected to contain H₂S. If H₂S greater than 100 ppm is encountered in the gas stream we will shut in and install H₂S equipment.

- a. Well Control Equipment:
 - Flare line.
 - Choke manifold with remotely operated choke.
 - Blind rams and pipe rams to accommodate all pipe sizes with properly sized closing unit.
 - Auxiliary equipment to include: annular preventer, mud-gas separator, rotating head.

- b. Protective equipment for essential personnel:
Mark II Surviveair 30-minute units located in the dog house and at briefing areas.
- c. H2S detection and monitoring equipment:
2 - portable H2S monitor positioned on location for best coverage and response. These units have warning lights and audible sirens when H2S levels of 20 ppm are reached.
- d. Visual warning systems:
Caution/Danger signs shall be posted on roads providing direct access to location. Signs will be painted a high visibility yellow with black lettering of sufficient size to be readable at a reasonable distance from the immediate location. Bilingual signs will be used, when appropriate. See example attached.
- e. Mud Program:
The mud program has been designed to minimize the volume of H2S circulated to the surface.
- f. Metallurgy:
All drill strings, casings, tubing, wellhead, blowout preventers, drilling spool, kill lines, choke manifold and lines, and valves shall be suitable for H2S service.
- g. Communication:
Company vehicles equipped with cellular telephone.

COG OPERATING LLC has conducted a review to determine if an H2S contingency plan is required for the above referenced well. We were able to conclude that any potential hazardous volume would be minimal. H2S concentrations of wells in this area from surface to TD are low enough; therefore, we do not believe that an H2S contingency plan is necessary.

W A R N I N G

**YOU ARE ENTERING AN H₂S AREA
AUTHORIZED PERSONNEL ONLY**

- 1. BEARDS OR CONTACT LENSES NOT ALLOWED***
- 2. HARD HATS REQUIRED***
- 3. SMOKING IN DESIGNATED AREAS ONLY***
- 4. BE WIND CONSCIOUS AT ALL TIMES***
- 5. CK WITH COG OPERATING LLC FOREMAN AT MAIN OFFICE***

COG OPERATING LLC

1-575-748-6940

EMERGENCY CALL LIST

	<u>OFFICE</u>	<u>MOBILE</u>
COG OPERATING LLC OFFICE	575-748-6940	
SETH WILD	432-683-7443	432-528-3633
WALTER ROYE	575-748-6940	432-934-1886

EMERGENCY RESPONSE NUMBERS

	<u>OFFICE</u>
STATE POLICE	575-748-9718
EDDY COUNTY SHERIFF	575-746-2701
EMERGENCY MEDICAL SERVICES (AMBULANCE)	911 or 575-746-2701
EDDY COUNTY EMERGENCY MANAGEMENT (HARRY BURGESS)	575-887-9511
STATE EMERGENCY RESPONSE CENTER (SERC)	575-476-9620
CARLSBAD POLICE DEPARTMENT	575-885-2111
CARLSBAD FIRE DEPARTMENT	575-885-3125
NEW MEXICO OIL CONSERVATION DIVISION	575-748-1283
INDIAN FIRE & SAFETY	800-530-8693
HALLIBURTON SERVICES	800-844-8451

District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 120030

CONDITIONS

Operator: COG OPERATING LLC 600 W Illinois Ave Midland, TX 79701	OGRID: 229137
	Action Number: 120030
	Action Type: [C-101] BLM - Federal/Indian Land Lease (Form 3160-3)

CONDITIONS

Created By	Condition	Condition Date
pkautz	Will require a File As Drilled C-102 and a Directional Survey with the C-104	7/26/2022
pkautz	Once the well is spud, to prevent ground water contamination through whole or partial conduits from the surface, the operator shall drill without interruption through the fresh water zone or zones and shall immediately set in cement the water protection string	7/26/2022
pkautz	Oil base muds are not to be used until fresh water zones are cased and cemented providing isolation from the oil or diesel. This includes synthetic oils. Oil based mud, drilling fluids and solids must be contained in a steel closed loop system	7/26/2022
pkautz	Cement is required to circulate on both surface and intermediate1 strings of casing	7/26/2022